



NEC3 Engineering and Construction

Short Contract (ECSC3)

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

and

for The design, installation, supply, delivery, commission, and handover of Electronic Security Systems at Various sites in the Free State and the KZN Operating Units, Central East Cluster over a period of six (6) 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	[•]

Enquiry Number

KZN170

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:

Title of the Contract

The design, installation, supply, delivery, commission, and handover of Electronic Security Systems at Various sites in the Free State and KZN Operating Units, Central East Cluster over a period of six (6) 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. _____'

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)*

(Insert name and address of organisation)

Name & signature of witness _____

Date _____

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):	[●] Lenny Babulall
	Address	[●] 25 Valley View Road, New Germany
	Tel No.	[●]
	Fax No.	[●]
	E-mail address	[●]
11.2(11)	The <i>works</i> are	[●] Design, Supply, install the security systems
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.

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.

11.2(12) The *site* is

[•]KZN Province

1. New Germany RDC and Complex
2. Newcastle Area Office
3. Westville Call Centre
4. Mkondeni Complex
5. Empangeni Area
6. Empangeni RDC
7. Vryheid RDC

Free State Province

1. Bloemfontein Centre Office
2. Welkom RDC and Complex
3. Jordaan Complex
4. Jacobs Bethlehem Office Building

30.1	The <i>starting date</i> is.	[•] TBA
11.2(2)	The <i>completion date</i> is.	[•]. 6 months from the date of contract award
13.2	The <i>period for reply</i> is	[•] 3 working days
40	The <i>defects date</i> is	[•] 2 weeks after Completion
41.3	The <i>defect correction period</i> is	[•] 1 week
50.1	The <i>assessment day</i> is the	[•] per area
50.5	The <i>delay damages</i> are	[•] R 1500.00 per day
50.6	The retention is	[•] 5%
51.2	The interest rate on late payment is	[•]% [Insert a rate only if a rate less than 0.5% per week of delay has been agreed]
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 conditions of contract are the NEC3 Engineering and Construction Short Contract (April 2013)³⁴ 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*.

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.

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	The replacement cost where not covered by the <i>Employer's</i> insurance The <i>Employer's</i> policy deductible as at contract date,	The <i>Employer's</i> certificate of Completion has been issued

	where covered by the <i>Employer's</i> insurance	
Loss of or damage to Equipment, Plant and Materials	The replacement cost where not covered by the <i>Employer's</i> insurance The <i>Employer's</i> policy deductible as at contract date, where covered by the <i>Employer's</i> insurance	The Defects Certificate has been issued
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	<u>Loss of or damage to property</u> <u>Employer's property</u> The replacement cost where not covered by the <i>Employer's</i> insurance The <i>Employer's</i> policy deductible as at contract date where covered by the <i>Employer's</i> insurance <u>Other property</u> The replacement cost <u>Bodily injury to or death of a person</u> The amount required by the applicable law	
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

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

KZN Province

The home centre for KZN when claiming for kilometres will be **Mkondeni Complex** for all KZN Sites.

Free State Province

The home centre for Free State when claiming for kilometres will be **Bloemfontein Eskom Centre** for

The selected sites are as follows: Attached pricing schedules should be completed and signed off by the Tenderer.

Item no.	Description	Unit	Quantity	Rate	Amount
1.	New Germany RDC and Complex Coordinates -29.80328; 30.88197: Design, procurement, Installation, commissioning and handover of access control system, booms ,barriers and CCTV camera technology inside and outside of the building and selected entry and exit points.				
2.	Newcastle Coordinate S 27 422 40, E 30 0 30 03464: Design, procurement, Installation, commissioning and handover of access control system, booms, barriers and camera technology inside and outside of the building and selected entry and exit points.				
3.	Vryheid RDC Coordinates S 27 46 178,E 30 05024 Design, procurement and Installation, commissioning and handover of access control systems, booms, barriers and camera technology inside and outside of the building and selected entry and exit points.				
4.	Empangeni Offices Coordinates - S 28 761217, E 31 911289 Design, Procurement, Installation, commissioning, and handover, of access control, booms, barriers system and camera technology inside and outside of the building and selected entry and exit points.				
5.	Empangeni RDC Coordinates S 28 743841, E 31 893063 : Design, procurement, Installation,				

	commissioning and handover of access control system, booms, barriers and camera technology inside and outside of the building and selected entry and exit points.				
6.	Eskom Offices Menston Road Coordinate S 29 653685, E 30 41847 Design, Procurement, Installation, commissioning, and handover, of access control, booms, barriers system and camera technology inside and outside of the building and selected entry and exit points.				
7.	Mkondeni Area Offices Coordinates S 29 653685, E 30 41847 : Design, Procurement, Installation, commissioning and handover, of access control, booms, barriers system and camera technology inside and outside of the building and selected entry and exit points.				
8.	Welkom Rdc and Complex coordinates: 27°55'48.7"S 26°45'01.8"E Design, procurement, Installation, commissioning and handover of access control system, booms, barriers and camera technology inside and outside of the building and selected entry and exit points.				
9.	Bloemfontein Eskom Centre coordinate: 29,11146;26,20527 Design, procurement, Installation, commissioning and handover of access control system, booms, barriers, and camera technology inside and outside of the building and selected entry and exit points.				
10.	Jordaan Complex coordinate: - 28.20026; 28.27340 Design, procurement, Installation, commissioning and handover of access control system, booms, barriers, and camera technology inside and outside of the building and selected entry and exit points.				

11.	Jordaan Complex coordinate: - 28.20026; 28.27340 Design, procurement, Installation, commissioning and handover of access control system, booms, barriers, and camera technology inside and outside of the building and selected entry and exit points.				
12.	Jacob Bethlehem building coordinate:28.233545; 23.312702 Design, procurement, Installation, commissioning and handover of access control system, booms, barriers, and camera technology inside and outside of the building and selected entry and exit points.				
	The total of the Prices (excluding VAT):				

NB:

Price to be fixed and firm for the duration of the contract.

Each Bill of Quantities (BOQ) to be price individually according to the areas listed on the attached Schedule.

C3: Scope of Work

C3.1 Works Information

1. INTRODUCTION

Some of the sites in the Central East Cluster (KZN/FS) sites are equipped with Alarms/CCTV PTZ (Pan Tilt Zoom), static cameras, Access control systems, Alarm systems, booms, and automated gates etc. at exits/entrances, offices spaces and other restricted areas to ensure better management of access control into the facilities.

A combination of the said Physical Access Control systems, Gates, booms, turnstiles, access control and visitor management software and license plate recognition cameras, fences, etc. are integrated by means of software and other electronic automation platforms to ensure that they are synchronized to operate efficiently.

Physical access control systems are systems deployed to physically prevent unauthorized access, direct persons, and vehicles to designated access/exit points and to define specific boundaries for the specified sites.

However, the current technology systems have over time become weak and redundant due to changes in the technology, poor maintenance and the dynamic crime risk landscape. This situation has led to many security risks that exposes the cluster to various losses.

The warehouses and the substations are beleaguered by incidents of theft and vandalism which can be ascribed to lack of robust and zoned and access controlled internal design, particularly at the vital areas of the warehouses, buildings and substations to enable management to assume better control of access to the mentioned assets.

With this package, the cluster intends to source industry renowned systems integration specialist/s with extensive accreditations and training from established suppliers and Original Equipment Manufacturers (OEM's) locally and internationally in the area of IP HD CCTV technology, Integrated Security Management systems, Physical access control systems (PACS) and other related platforms.

The supplier must also be experienced in the installation, maintenance, and integration of Physical Access Control Security Systems (Booms, gates, etc.).

Therefore, it is proposed that an integrated access control technology be installed in order to give effect to the suitable zoning and better management of access to the listed category of assets.

2. SCOPE PURPOSE

The purpose of this scope of work is to propose for the design, procurement and installation of a combination of electronic security solutions to provide visual identification and verification of persons and equipment, access audit trail, personnel and electronic visitor movement database for the site. The technology will also be capable of flagging unwanted personnel on site in the event where incidents have taken place. The system will also be equipped with host and visitor tagging among others which is dependent on management approval.

To ensure continuous improvement, and to align with the dynamic risk landscape of the area, support and maintenance contract must be concluded subsequent to the installation and commissioning of the electronic security technology.

The scope of work should include:

This scope requirements document considers an in-depth approach to the physical security requirements for the warehouse to conform to deter, detect, delay, deny, response and recovery objectives.

However, the security design of the site shall be informed and guided by a revised and comprehensive Security Threat and Risk Assessment, compliant with the principles of the Eskom Integrated Risk Management Policy, and taking into account the associated costs and the prevailing level of risk tolerated by the business and/or asset owner.

That said, higher level of design specifications for the site might be considered relative to the risk and the risk appetite of the Cluster and at any time that the Threat Risk Assessment is reviewed. Furthermore, the organising of the systems must be in depth/holistic and must contain mutually supporting physical and procedural components, well-co-ordinated to prevent gaps or overlaps in responsibilities and performance.

KZN Province

The home centre for KZN when claiming for kilometres will be Mkondeni Complex for all KZN Sites.

The selected sites are as follows:

- **New Germany RDC and Complex Coordinates -29.80328; 30.88197:** Design, procurement, Installation, commissioning and handover of access control system, booms ,barriers and CCTV camera technology inside and outside of the building and selected entry and exit points.
- **Newcastle Coordinate S 27 422 40, E 30 0 30 03464:** Design, procurement, Installation, commissioning and handover of access control system, booms, barriers and camera technology inside and outside of the building and selected entry and exit points.
- **Vryheid RDC Coordinates S 27 46 178,E 30 05024** Design, procurement and Installation, commissioning and handover of access control systems, booms, barriers and camera technology inside and outside of the building and selected entry and exit points.
- **Empangeni Offices Coordinates - S 28 761217, E 31 911289** Design, Procurement, Installation, commissioning, and handover, of access control, booms, barriers system and camera technology inside and outside of the building and selected entry and exit points.
- **Empangeni RDC Coordinates S 28 743841, E 31 893063 :** Design, procurement, Installation, commissioning and handover of access control system, booms, barriers and camera technology inside and outside of the building and selected entry and exit points.
- **Eskom Offices Menston Road Coordinate S 29 653685, E 30 41847** Design, Procurement, Installation, commissioning and handover, of access control, booms, barriers system and camera technology inside and outside of the building and selected entry and exit points.
- **Mkondeni Area Offices Coordinates S 29 653685, E 30 41847 :** Design, Procurement, Installation, commissioning and handover, of access control, booms, barriers system and camera technology inside and outside of the building and selected entry and exit points.

Free State Province

The home centre for Free State when claiming for kilometres will be Bloemfontein Eskom Centre for all Free State Sites.

- **Welkom Rdc and Complex coordinates: 27°55'48.7"S 26°45'01.8"E**
Design, procurement, Installation, commissioning and handover of access control system, booms, barriers and camera technology inside and outside of the building and selected entry and exit points.
- **Bloemfontein Eskom Centre coordinate: 29,11146;26,20527** Design, procurement, Installation, commissioning and handover of access control system, booms, barriers, and camera technology inside and outside of the building and selected entry and exit points.

• **Jordaan Complex coordinate: -28.20026; 28.27340** Design, procurement, Installation, commissioning and handover of access control system, booms, barriers, and camera technology inside and outside of the building and selected entry and exit points.

• **Jacob Bethlehem building coordinate:28.233545; 23.312702** Design, procurement, Installation, commissioning and handover of access control system, booms, barriers, and camera technology inside and outside of the building and selected entry and exit points.

DESIGN PRINCIPLES

The overall security design principle is to deter, detect, delay, defeat all except the most determined adversary, and in any event shall aim to deny an adversary the ability to achieve their objective;

These principles are to ensure that the time between detection of an intrusion and response by security respondents is less than the time it takes for damage or compromise of assets to succeed. Once detected, the adversary should be delayed for sufficient time to enable an appropriate response to be made;

Therefore, the physical security designs shall be robust enough to allow sufficient delay times for the security respondents to arrive.

The response to a security breach will be proportionate, legal, appropriate and necessary under the circumstances. A denial strategy is also in place to ensure that the protected asset is in no way compromised by the attackers.

Hence, the designs will be accompanied by early detection, long delay, and quick response to ensure that the attacker is unable to gain physical access to the protected assets.

The security designs shall make provision for a containment and denial strategy, which acknowledges that the attacker may gain physical access to the protected asset given their determination and other factors, but shall ensure that the respondents arrive quick enough thereafter to contain the degree to which the asset is compromised.

The '**protection in depth**' and '**layered**' principles of security shall be applied at all times to ensure that security is not compromised by a failure of a security measure or, where appropriate, a combination of measures.

CREDENTIAL MANAGEMENT

The electronic access systems controller will have the capability to create access restrictions and draw reports/ audit trail per personal, per group, per clearance code and/or per department. The system will be equipped with Anti Time Back or Anti Pass Back capabilities, thereby controlling and limiting access, enforcing discipline and ensuring that standard operating procedures are adhered to.

Anti-Pass back is also intended to enhance time and attendance of personnel and to mainly limit circumvention of the access control system.

VISITOR MANAGEMENT SYSTEM

The system will be configured to support visitor and host tagging should these be supported by end-user. When the visitor swipes the access card, the CCTV system captures the visitor's picture, which is stored in a database. This is intended to facilitate faster visual identification during investigations. This capability will be embedded as a standard feature of the access control technology.

Capabilities of the Access Management technology;

The access management system will be equipped the following capabilities among others;

- Assign access control rights by managing and monitoring duration of visit, entry rights and Permissions during the visit/entry.

- This process will also form integration with physical structures to ensure effective security and capability to centrally lockdown the facility in the event of a robbery or protest action.
- The system will have an automatic fault reporting facility
- Visitor and host tagging
- Statistical reports indicating the number of visitors, personnel and visits per site and zones.
- Statistical reporting to provide management Information database about the entries, visits to the sites and visitor patterns.

ZONING OF THE SITE

ZONE 1 – SITE PERIMETER

The new scope must include the hardening of the existing perimeter fence with a 600mm energised non-lethal fence on top. The fence lining must be integrated with the Security Management System to enhance the required detection capability.

The fence must be supported by thermal perimeter Surveillance IP CCTV technology as part of the main detection and video verification strength.

The entry gates must be automated and control be defaulted to the Integrated Control Centre, mainly during shutdown periods (night, weekends and public holidays). The exact times to be confirmed by security management and the site owner. The system can also be integrated with the duty roster and existing site SOPS for complete automated control of access management to the sites.

Gate motorization will be integrated with the access control system via a Wiegand Video Intercom System, linked and controllable from the integrated Security Control Centre to enable the Security Control Centre to take over and manage the site access control remotely.

The design will also allow the system to link any access to a specific user, loaded onto the system. The system will therefore be able to provide a log of when and by whom the gate was operated.

The main gate entrance reader will have a dual capability to allow the use of access cards/ and or blue tooth connectivity.

In the event where access is required for a person that does not have access rights to the site, the operator must be able to remotely open/close any of the gates. SOP'S will need to be drafted and agreed to by the Site Owner and Security Management.

The Perimeter Protection will provide visual deterrence and an early warning of attempted intrusion as well as delaying the entry of intruders as soon as movement is detected.

The Perimeter Fence shall be equipped with Perimeter Video Intruder Detection Systems (PVIDS) to provide the early warning notification in the event of planned illegal entry/attack to the site.

The PVIDS shall capture videos of all motion detected and transmit this to the integrated Control Centre for intrusion verification where the audio fight back technology and the Tactical Response team will be activated.

ZONE 2 - CONTROL ROOM

This area will be part of the areas wherein all sites systems are integrated into and under controlled access and video surveillance to ensure that the site is adequately protected.

ZONE 3 - INTERNAL SITE SECURITY MEASURES

The yard will be equipped with artificial intelligence enabled Pan Tilt Zoom (PTZ) Camera to ensure overall surveillance of the site and adversary auto-tracking capability. PTZ cameras are considered necessary to enable long-range surveillance and identification.

The main deliverables of the project shall comprise of the following:

- Design, Supply, installation and commission of an Integrated Security Management System (ISMS); (Automated access management and integration of all subsystems).
- The design, supply, installation and commissioning of all equipment for IP intercom and visitor management system;
- The detection systems must be configurable to detect and report wild fires along the perimeter fence.
- Design, Supply, installation and commission of Perimeter Video Intrusion Detection System;
- Design, Supply, installation and commission of new video management system, and Network Video Recorders;
- Design Supply and installation of a network system and construction infrastructure to enable overall organisation, communication, configuration and integration of the electronic security systems.

- Design, Supply, installation and commission of all electrical requirements for the electronic security systems that shall include UPS;
- Witnessed testing; and
- Production of as-built drawings.

GENERAL ELCTRONIC SECURITY MANAGEMENT SYSTEMS SPECIFICATIONS

General

This part of the specification covers the design, supply, installation and commissioning of all equipment for the IP based access control system.

The access control system shall be fully integrated with the IP Surveillance and shall allow monitoring of all access control events and alarms and to trigger the IP Surveillance camera and display the designated video images of door, fence zone and/or gate to the operator terminals.

Philosophy

The system shall provide a means to control access through nominated doors having door status monitoring and biometric access control readers. Access rights, associated with the presented fingerprint, shall be checked for validity based on token or identifier, access area, access time and any other access management function defined in this specification as stored in the intelligent field controllers. Access shall be granted or denied, dependent on the access privilege. Access rights shall be programmed in a variety of ways to allow flexibility. This is defined elsewhere in this specification.

The access control system shall consist of the following equipment:

- IP System Controller
- Universal Reader Interface (URI) door controllers
- In/Out biometrics readers
- Magnetic door lock
- Emergency escape break glass unit (installed on secured side of access control door)
- Door status monitor
- Request-to-Exit push buttons

The fire escape doors shall be fitted with local sounders that will activate if the door is opened. The software shall be installed on a dedicated server in the server room.

Controller

The network / door controller shall be of the High Spec Controller, suitable for the direct control door controllers as well as doors, booms, etc., in both the on- and off-line modes forming an integral part of the access control network.

Each Controller shall be provided with a lockable battery backup cabinet, to sustain complete operational effectiveness including remote reader electronics, card readers and remote input and output modules for a minimum of four (4) hours of normal operation. Separate battery backup power supplies will be installed for power of the magnetic locks for each access control door. Quantity and location of Controller shall be as per the drawings.

Universal Reader Interface – Wiegand Variant

The G-BUS Universal Reader Interface shall provide connections for 4 inputs, 2 outputs, and 2 Wiegand readers. The reader shall be configured in conjunction with the Controller to provide a daisy-chain RS-485 wiring structure solution. The G-BUS Universal Reader Interface Wiegand variant is a 2x Wiegand reader variant.

The URI shall be installed in the same cabinet as the Controller and individually labelled for each door.

Quantity and location of Universal Reader Interface shall be as noted on the Bill of Quantities and drawings.

High Density I/O interface

The High Density I/O interface shall be connected to the Controller via the G-BUS RS 485 communication.

The 16/16 I/O shall be capable of providing 16 inputs and 16 relay outputs.

Quantity and location of the I/O interface shall be as noted on the Bill of Quantities and drawings

Biometrics readers (Sigma Lite)

Biometrics readers shall be type Morpho access Sigma Lite.

Biometrics readers provided shall be fingerprint type technology and shall include associated remote reader electronics modules. The unit shall be able to store at least two (2) fingerprints templates of each person for

up to 5 000 persons. The unit shall be constructed from a polycarbonate (IP65) Indoor/Outdoor enclosure that has a IK08 impact protection rating. On-board input/ outputs shall be Wiegand In/Wiegand Out with on-board general purpose input and outputs. It shall be full PoE compatible. Quantity and location of biometrics readers shall be as recorded in the Bill of Quantities and drawings.

Software Programming Requirements

The software shall support multiple access groups where each access group contains a list of control points to which a user has authorized access. The system shall allow authorized operators to enable, disable, or edit access control parameters (e.g. time zone control, holidays) of each access group.

The system shall allow any user to be included in one or several access groups.

Multiple programmable time schedules shall be provided for full flexibility in the automatic locking and unlocking of buildings, as well as for controlling all users on combined time schedules and access groups. Time schedules shall include holiday facilities.

The Contractor shall be responsible for all software, utilities and data backup, up and until the hand over date and the full 12-months thereafter. Assigned passwords shall define the levels of system operation for each individual operator. System operation for individual operators shall include, but not be limited to, restricted times for login. Operator actions range from basic monitoring to full control of the system, including programming.

The following access levels are required:

- Operator - Accept alarms; print alarm reports
- Manager - Enquiries from data-bases and printing; this level also includes the permissions of the previous level.
- Programmer- Access to all software to alter contents of software package.

Alarm faults reported, shall include but not be limited to the following per building:

Type of alarm	Location	Response
Insecure doors	All controlled monitored doors	Alarm
Non-Valid Card	All Card readers	Alarm
Tamper	All Controllers	Alarm
Pass-back	All Controllers	Alarm
Comms Failure	All Card Readers	Fault

Graphical User Interface

Each floor of a building and the site shall be graphically displayed on the access control workstation indicating each door monitored, each card reader, surveillance camera, etc. position.

The site layout shall normally be displayed with an automatic switching function to the floor/area under alarm condition.

Graphical maps to be included within the initial configuration shall show the following in detail:

- Site plan showing all buildings, perimeter fence, locations of all alarm points
- A plan of each accommodation unit and building
- All buildings devices/status/alarms
- All building tamper, communications, power
- Other maps as required to clearly display all alarm inputs within buildings, or external equipment at the cubicle locations.

Each site map shall be provided with a site plan key, which shall be common to all maps and situated in the same position. The key shall provide a means for the operator to quickly navigate through the entire facility without the need to use standard navigation buttons or the main site map.

IP Surveillance and Network Video Recording Specification

General

This part of the specification covers the design, supply, installation and commissioning of all equipment for the IP surveillance system. The entire installation shall function as a single integrated IP surveillance system. The IP surveillance system shall consist of IP cameras connected via an IP network to the video management and recording server.

The following components of the system shall form part of this contract:

- Indoor and outdoor IP cords cameras, housings, and mountings.
- Network video recording servers.
- Operators' workstation.
- Integration modules required for Access control.
- Graphical User Interface mapping and alarm management
- All camera signal, data and power cable will be wired to the equipment cupboard closest to its position. The video data signal cable (Cat6 UTP) will be terminated to the LAN via a multi-port TCP/IP data switch inside the equipment rack cabinet.
- All cameras and switches will be Power-Over-Ethernet compliant.

System Description

Indoor dome cameras shall be standard vandal resistant ceiling/wall mount and fitted with built in variable focal, auto iris lenses to ensure optimal optical efficiency. Where no false ceiling is available, cameras will be mounted against walls. All cameras will have remote focus/zoom capabilities.

Indoor/ Outdoor fixed cameras shall be the bullet type to protect the camera from dust, rain and strong winds. Cameras shall be fitted with variable focal, auto iris lenses to ensure optimal optical efficiency. Cameras shall be either mounted on walls or onto steel roof beams. All cameras will have remote focus/zoom capabilities.

The system shall be designed for continuous 24/7 recording, with the option of motion detection activation for certain cameras. All activities shall be recorded on a centralised archive storage server.

All signal, control and power cables shall be installed inside conduit, trunking and on cable trays/baskets. The Contractor shall obtain the Eskom's approval of all routes.

The correct angle of view will be set up for each individual camera. The Contractor will supply the Eskom with snap shots of each installed camera showing the viewing angle as part of the closeout documentation.

All lenses shall be glass; plastic lenses will not be accepted.

Video analytics will have to be programmed for each camera as required by Eskom.

- These will include the following:
- Number plate recognition
- Directional movement
- Entry/Exit Area
- Object removed detection
- Tracking of object movement, people and vehicles
- Alarm activation on perimeter fence when movement is detected near perimeter
- Appearance Search

Cameras

The table below indicates the model number of each camera that will be used:

Type	Camera Model Number
1	Indoor/Outdoor Dome (3-9mm), 2.0MP With Video Analytics (ONVIF)
2	Indoor/Outdoor Bullet (3-9mm), 2.0MP With Video Analytics (ONVIF)
3	Indoor/Outdoor Bullet (3-9mm), 3.0MP Video Analytics (ONVIF)
4	Mini Dome, 2mp, 2.8mm Lens Video Analytics (ONVIF)

Video Management System

The product described in this Specification shall be an IP Video Management System (VMS) that shall be established on 8-Port HD Video Appliance servers, with Gigabit network interface. The unit shall be 19” rack mounted, preloaded with Control Centre software and fitted with 48TB on-board storage.

The VMS shall provide alarm management integration with the access control systems that shall automatically display cameras in response to alarm and/or event inputs. The alarm management feature shall allow either an automatic or a manual reset of an alarmed video input. Multiple modes of alarm processing via programming shall be supported within the same system.

Camera recording shall be as per the table below:

The

Type	Camera Model Number	Live/Recorded Resolution	Frames per Second	Recording Setting
1	2.0C-IR	1920 x 1080	20	Motion
2	2.0C-IR-B	1920 x 1080	25	Motion
3	3.0C-IR-B	2048 x 1536	25	Motion
4	2.0C-IR	1920 x 1080	20	Motion

Contractor shall be responsible to set each camera individually based on the specific requirements above. The motion detection area for all cameras that are not programmed for continuous recording will be correctly set up to ensure minimal unnecessary recordings.

Camera Mounting Pole

The camera poles for the stand-alone static cameras shall be 4.7m Concrete or similar approved poles. Concrete bases, reinforcing steel, cable sleeves, foundation bolt cage and baseplate shall be installed to the Specifications of Supplier.

A 1,2m x 15mm dia. steel rod with molecularly bonded copper cladding shall be mounted to the apex of the mast. This shall serve as the air termination of a lightning conduction system which will further consist of a 50mm² stranded bare copper down conductor running inside the mast to three 1,2m copper clad earth rods driven into the ground at the extremities of the excavation for the base of the pole before the concrete is cast. The tops of the earth rods will be interconnected with the continuous 50mm² down conductor.

All connections associated with this lightning down conductor shall be hard soldered or fusion welded ('Cadwelded').

Camera Outdoor Equipment Cabinet

Where indicated on the site plans, an IP 65 outdoor camera enclosure will be installed. The enclosure shall be supplied with 19" rack mounting rails, a stand-alone true sine wave, online, double conversion UPS and electrical breakers, surge protection, etc

VIDEO INTERCOM

This part of the specification covers the design, supply, installation and commissioning of all equipment for IP intercom system.

The IP intercom shall be fully integrated with the IP surveillance system and shall be installed at the main vehicle entrance and exit lanes. The unit shall be a single- button intercom that provides easy ways to communicate with you're the operator for entry control. The on-board outputs shall be connected to the vehicle boom barrier for remote opening of these.

Gate motors

The existing sliding gates shall be controlled by means of an electrically controlled industrial type gate motor.

The gate motors shall be Centurion D10 Turbo or similar approved heavy-duty industrial type and shall be supplied complete with mounting plate, steel angle rack, battery back, infra-red safety beams, anti-theft bracket with circular padlock and magnetic limit sensors.

The supplied gate motors shall be rated for use on sliding gates with a mass of 1000kg. The gate motor shall be capable of 750 open and close operations per day with mains power present and 37 open and close operations in standby battery mode. The maximum gate speed will be determined by the gate mass, with the maximum opening speed of 23m/min for a 1000kg gate. The gate motor shall be 24Vdc operated.

Site Tests and Commissioning

The testing of the system shall be done in the presence and to the satisfaction of authorized representative of the Eskom.

Tests shall include simulation of fire conditions, testing of network cabling, testing and switching of audio and video signals, testing of access control events, etc. to prove the efficiency of all aspects of the system to the satisfaction of the Eskom.

All equipment, material, etc., which may be necessary for these tests shall be supplied by the Contractor, including a suitable smoke and heat generator.

The Contractor shall do his own complete commissioning tests before the actual first take-over tests are done. This is to satisfy himself that everything is working and is in accordance with the specification. Three system faults will result in the Eskom aborting the test, subsequent commission costs incurred by the Eskom shall be for the Contractor's account.

After submission of the test results, the Contractor shall notify that the installation is complete, tested and in working order. The Eskom will witness the re-testing of the installation.

Training

General

Prior to commissioning of the installation, the Contractor shall provide comprehensive training of all security staff and nominated maintenance personnel, to the approval of the Eskom.

Maintenance staff shall be able to demonstrate a complete understanding of the location and connectivity of the various elements of the electronic security and access control installation.

All training aids and course notes necessary to conduct effective operational and maintenance training shall be supplied by the Contractor. The training venue will be made available on Site by the Eskom.

The training documentation must be submitted to the Eskom for evaluation and approval. Each group of trainees should receive a minimum of 4 hours training session. Allow to fully train 3 groups, each of up to 4 personnel. (The amount of personnel sent for training are to the full discretion of the Eskom).

Training shall be adequate to ensure that the groups trained are: competent in the operation of systems, adequately trained to carry out on-going training, and fully aware of the location of all equipment installed as part of this Contract within their area of responsibility.

The contract shall adhere to the Eskom defined security procedures for access to and during site attendance over the defect liability period.

As-Built Drawings and Documentation

The Contractor shall prepare as-built drawings of his completed installation – including conduit routes.

The Operator's Manuals must be compiled in such a way and contain enough detail information to enable a suitably qualified Eskom or Technician to control and operate the full installation without any training from the Contractor. The Operator's Manuals must be a separate set of documents from the Maintenance Manuals.

Irrespective of the abovementioned, the Operator's Manuals must also contain short form instructions to enable trained operators (trained by the Contractor) to operate the full installation.

The Contractor shall also prepare a comprehensive set of Operations Maintenance (O+M) manuals for approval by the Eskom.

The following shall be included as a minimum:

- Cover page
- Index
- Contractor contacts details
- Call out procedure.
- Manuals and Specifications of all the installed equipment
- Installed equipment warrantee details including supplier contact information.
- Commissioning data
- Photo report of installation
- Snapshots of all camera's day and night
- Handover Certificates
- Operator guides and procedures.
- Maintenance schedules (weekly, monthly, quarterly, and yearly)
- As-built drawings
- Bill of Quantities
- Construction monitoring
- Quality assurance with regards to specifications
- As-built drawings and close-out
- Supply and delivery of material
- Construction, commissioning and handover of the works based on the designs

Lightning and Surge Protection Specification

The Contractor shall provide and install all the necessary surge protection devices, for the protection of the electrical/electronic control equipment, communication and data lines. Surge Protection devices shall protect all AC and DC circuits from the effect of lightning induced over voltages, internally generated transients and utility switching transients.

The electrical Engineer is responsible to limit transient overvoltage to $\leq 1000V$. If equipment cannot withstand this impulse level, the Tenderer shall allow for fine surge protection upstream of his equipment power supplies. No claim for damaged equipment will be entertained if equipment proves to be protected inadequately.

The Tenderer has to allow for additional surge suppression and voltage stabilisation equipment if this is required to protect his equipment or to guarantee its correct operation.

Guarantee/Warrantee

- The supplier shall guarantee the final product for 5 years.
- The supplier shall state the minimum Guarantee duration.
- The supplier shall in detail document what constitutes a “failure”

Integration and coordination with other systems

The effective physical security systems must build a system of interface with the following mutually supporting elements:

- Physical security measures, including physical barriers, lighting, and integrated electronic security systems (ESS) to consolidate the design in the future.
- Policy and procedural security measures, including procedures (SOPS) in place before an incident and those employed in response to an incident. (These include procedures (SOPS) employed by asset owners, SHEQ Security, regulators through legislations to govern the actions of deployed security officers.)
- Terrorism/vandalism/theft/robbery/protests counteraction measures that protect assets against such terrorist, vandalism/theft/robbery/protests and/or any adversary attacks.
- Internal and external security perimeter barriers with a detection system affixed to the exterior perimeter barrier.
- Delay measure(s) between the perimeter barriers; sufficient distance to be allowed between internal and external security perimeter fence to effect maintenance.
- Adequate lighting for operational security purposes;
- Patrol ways on the outside of the external perimeter barrier and on the inside of the internal perimeter barrier, throughout the entire perimeter.
- There must be sufficient distance allowed between the internal and external security perimeter fence for maintenance purposes and vegetation management.
- Measures between the barriers must be consolidated and integrated within the 24/7 Security Control Centre.
- Where other entry points through the site perimeter are required for operational purposes, e.g. emergency exits, storm water drains and culverts, there should be adequate physical security provision and monitoring capability to maintain the integrity of the perimeter.
- Establishment of a protest action buffer zone at the main entrance with effective lockdown facilities.
- Video Surveillance and monitoring of the areas between the internal and external perimeter barriers. (Capable of operating in adverse weather conditions (high lightning zone, heavy fog).
- Site/ Installation Perimeter Roads and Clear Zones.
- In the event where a perimeter barrier encloses large areas as at sites, an interior all weather perimeter road should be provided for security-patrols and other activities required for inspections and maintenance purposes.
- Clear zones should be maintained on both sides of the perimeter barrier to provide an unobstructed view of the barrier and the ground adjacent to it.
- Roads within the clear zone should be as close to the perimeter barrier as possible without interfering with it. The roads should be constructed to allow effective road barriers to deter motor movement of unauthorized personnel during mobilization periods.

- Clear zones must be kept clear of weeds, rubbish, or other material capable of offering concealment or assistance to an intruder attempting to breach the barrier.
- A clear zone of five metres or more should exist between the perimeter barrier and exterior structures, parking areas, and natural or manmade features.
- Where possible, a clear zone of 10 metres or more should exist between the perimeter barrier and structures within a secure area, except when a building's wall constitutes part of the perimeter barrier.
- Should the location of the site make it impossible or difficult to have adequate clear zones due to existing structures, then it will be advisable to increase the height of the perimeter barrier, include perimeter video intrusion detection systems and more security lighting.
- All the systems must be integrated and manageable/operable from a selected and protected security control centre.
- When considering the construction of a new site or perimeter, ensure that the plans include a fence located well inside the property line, thus permitting control of enough space outside the fence to maintain at least a minimal clear zone.
- All storm water drains and culverts shall be adequately protected with monitoring capability.

UTILITY OPENINGS

- Sewers, air and water intakes and exhausts, and other utility openings of 25 centimetres or more in diameter that pass through perimeter barriers must have security measures equivalent to that of the perimeter.
- Specific requirements of various openings are discussed below:
- Manhole covers of 25 centimetres or more in diameter must be secured to prevent unauthorized opening by means of locks and hasps, by welding them shut, or by bolting those to their frame.
- Care must be taken to ensure that the material used for the hasps, locks, and bolts are resistant to corrosion.
- Keyed bolts are the most preferred method of protection owing to their inherent ability to make removal by unauthorized personnel more difficult.
- Drainage ditches, culverts, vents, ducts, and other openings that pass through a perimeter and that have a cross-sectional area greater than 0.06 square metres and whose smallest dimension is greater than 15,2 centimetres will be protected by securely fastened welded bar grilles.

WARNING SIGNS

A significant amount of warning signs should be erected to ensure that:

- Possible intruders are aware of entry into restricted areas.
- Warning signs augment control signs. They warn intruders that the area is restricted and that trespassing is prohibited.
- Warning signs should be installed along the limited area's physical barriers and at each entry point where access is permitted.
- In areas where English is one of two or more languages commonly spoken, warning signs must contain the local language in addition to English.

- The wording on the signs will denote warning of a restricted area.
- The signs should be posted at intervals of no more than 30, 5 metres.
- Warning signs must not be mounted on fences equipped intrusion-detection equipment.

GENERALSIGNS

- Signs prescribing the conditions of entry to an installation/site or area should be plainly placed at all main entrances.
- The signs should be legible under normal conditions at a distance of not less than 15, 3 from the point of entry.
- Such signs should inform the entrant of the security provisions (search of the person, the vehicle, packages, and so forth) or prohibitions (such as against carry on times such as cameras, matches, and lighters and entry for reasons other than official business) that may be prescribed by the security or facility management.
- Signs or notices legibly setting forth the designation of restricted areas.

Key success factors for the programme:

- Deliberate and Purposeful Tactical Response Service
- Deliberate and Purposeful Vegetation Management Service.
- Deliberate and Purposeful Electrical Support Service – Lighting, Uninterrupted Power Supply systems, etc.
- Deliberate preventative, corrective and reactive maintenance and support programme for the infrastructure.

Penalties and deductions

<p>The technicians are not certified or accredited to work on OEM systems during supply and installation.</p>	<p>R1 500.00 and immediate removal of the technician(s).</p>
<p>The technician(s) working at the Eskom facility are not registered with Private Security Industry Regulatory Authority (PSIRA). The new PSIRA certificate aligns with industry circular issued by PSIRA on 10 March 2015.</p>	<p>R1 500.00 and immediate removal of the technician(s).</p>
<p>Employees working for the service provider found to have a criminal record.</p>	<p>R5 000.00 and immediate suspension of the contract.</p>
<p>Employees found to be involved in criminal activities at the Eskom facilities.</p>	<p>R5 000.00 and immediate suspension of the contract.</p>
<p>Site files with systems drawings, cable layouts, software upgrade keys, and asset registers. All these document must be send to security manager or delegated appointee</p>	<p>R1 000.00 per site breach.</p>
<p>Eskom considers the information captured by the CCTV system, such as the footage/recordings from the cameras, as personal information according to the Protection of Personal Information Act (POPI). The supplier must ensure that such information is afforded protection as required by POPI and therefore deemed confidential and should only be used for the service and cannot be shared with any other party except for Eskom purposes. Any breach of such incidents will be considered a serious violation.</p>	<p>R5 000.00 and immediate suspension of the contract.</p>

APPLICABILITY

This document is applicable to the works related to the design, supply and installation of electronic security solutions within at selected sites within Central East Cluster.

NORMATIVE/INFORMATIVE REFERENCES

The following references are included:

NORMATIVE REFERENCES

- ISO 9001 Quality Management Systems.
- Occupational Health and Safety Act shall be taken as referring to the Occupational Health and Safety Act 85, 1993 and regulations as amended.
- Manufacturer Operation and Maintenance Manuals.
- Specifications for CCTV surveillance with intruder detection, part 1- 34 -1613.240-91190304
- Specification for Integrated Security Alarm Systems for Protection of Eskom Installations and Subsidiaries – 240 – 86738968
- High Security Mesh Fencing - 240-76368574
- Commissioning Guideline For Secondary Plant Physical Security Systems 240-171000171

DEFINITIONS AND ABBREVIATIONS

Classifications:

Controlled disclosure: controlled disclosure to external parties (either enforced by law, or discretionary).

ABBREVIATIONS

Abbreviation	Description
AC	Alternate Current
CCTV	Closed Circuit Television Cameras
DC	Direct Current
Dx	Eskom Distribution Division
RDC	Limpopo Operating Unit
HD	High Definition
ESS	Electronic Security Systems
IP	Internet Protocol
SANS	South African National Standards
PTZ	Pan, Tilt, Zoom
SOPS	Standard Operating Procedures
NLEPDS	Non-Lethal Energized Perimeter Detection System
URS	User Requirements Specification
OEM	Original Equipment Manufacturer
AES	Advanced Encryption Standard
AMP	Ampere

ROLES AND RESPONSIBILITIES

Role	Description
Maintenance and Operations	Scope requirement/end-user
Customer Network Centre Supervisor	Scope requirement/end-user
Facilities Manager	Support scope requirement
Security Manager	Risk Owner
SHEQS Manager	Authorise scope requirement
Real Estate Manager	Scope requirement
Project Manager	Project Contract Management
IM Management	Scope Requirement /Asset owner
Asset Management	Scope Requirement

PROCESS FOR MONITORING

Document revisions will be marked in ascending numeric order. Final copy approved by SHEQS Manager to be stored accordingly.

RELATED/SUPPORTING DOCUMENTS

Not applicable

REQUIREMENTS

The requirements is for the design, supply and installation of electronic Security systems at Central East Cluster sites in accordance with the stipulated standards and policies.

COST BENCHMARKING

The costs of all items will be verified and confirmed by the appointed Quantity Surveyor

All records to be managed in compliance to the Eskom records management policy.

Title	Date or revision	Tick if publicly available
<u>General Specifications:</u>		
Health and Safety requirements		
Environmental requirements		
Site regulations and access control		
Quality Requirements		
<u>Technical specifications:</u>		
Annexure B 240-91190304 Specification for CCTV Surveillance with Intruder Detection		
Annexure C 240-86738968 Specification for Integrated Security Alarm System for Protection of Eskom Installations and its Subsidiaries		
Annexure D 240-17000096 Physical security integration standard		

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

Regular meetings of a general nature may be convened and chaired by the Supply Manager as and when required. Meetings of a specialist nature may be convened as specified elsewhere in this Service Information or if not so specified by persons and at times and locations to suit the Parties, the nature and the progress of the service. Records of these meetings shall be submitted to the Service Manager by the person convening the meeting within five days of the meeting. All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the conditions of contract to carry out such actions or instructions.

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

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.

The Price for each lump sum item in the Price List or Task Order which the *Contractor* has completed and

where a quantity is stated for an item in the Price List or Task Order, an amount calculated by multiplying the quantity which the *Contractor* has completed by the rate.

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

Access control to the site should be adhered to. Site establishment with associated services, including storage of materials and equipment and protection thereof

4.8 Title to material from excavation and demolition

Road Clearance to accommodate truck for delivery, work with cables in the building trenching covers will be opened and some digging also can be done

4.9 Design by the Contractor

As stated elsewhere in the document. Site visit and verification of requirements, On-site measurements

4.10 Cataloguing requirements by the Contractor

5. Requirements for the programme

C4: Site Information

Site Information is information about the *site* at the time of tender which the tendering contractor needs to allow for in his rates and Prices. The information does not change after contract award, nor does it describe or specify anything which the Parties do during the contract. It is only referred to during administration of the contract if the *Contractor* encounters conditions which are different to those described here. The *Contractor* will then make a comparison between actual conditions encountered and those described here in his assessment of any additional cost or time he may need to be compensated for in order to complete the works. Disputes about the difference between the effects of conditions encountered and those which the *Contractor* allowed for in his Prices will be minimised if the information given here is complete and relevant. If no information is given the tendering contractor will need to guess what he may encounter thus tendering higher Prices to allow for conditions that may not even exist.

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

1. Access limitations

The sites will be manned and access to the sites belong to Eskom.

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

The ground conditions are not the same however the site inspection will determine which ground condition will affect the contractor

3. Hidden and other services within the *site*

Provide details of underground or other hidden services which the *Contractor* may encounter whilst doing the work. Instructions about how to deal with them if encountered should be included in the Works Information.

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

There are several sites in Free State and KZN provinces that will require the service. The supplier will be given the sites based on the requirements being met.