



NEC3 Supply

Short Contract (SSC3)

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

and

for **The Supply and Delivery of SF6 Optical Camera and Accessories for the Transmission Western Grid**

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C1 Agreements & Contract Data

C1.1 Form of Offer and Acceptance

Offer

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

The Supply and Delivery of SF6 Optical Camera and Accessories for the Transmission Western Grid

The tenderer, identified in the signature block below, has

<i>either</i>	examined the documents listed in the Tender Data and addenda thereto as listed in the Returnable Schedules, and by submitting this Offer has accepted the Conditions of Tender.
<i>or</i>	examined the draft contract as listed in the Acceptance section and agreed to provide this Offer.

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 Supplier 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 Purchaser 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 Supplier in the conditions of contract identified in the Contract Data.

Signature(s)

Name(s)

Capacity

**For the
tenderer:**

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

Name &
signature of
witness

Date

Acceptance

By signing this part of this Form of Offer and Acceptance, the Purchaser identified below accepts the tenderer's Offer. In consideration thereof, the Purchaser shall pay the Supplier 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 Purchaser 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: Goods 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 Purchaser 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 Purchaser'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 copy of this document, including the Schedule of Deviations (if any) together with all the terms of the contract as listed above.

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

Signature(s)

Name(s)

Capacity

**for the
Purchaser**

(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 Purchaser 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 Purchaser 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 Purchaser 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 Purchaser 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 Purchaser

Signature

Name

Capacity

On behalf
of

(Insert name and address of organisation)

Eskom Holdings SOC Ltd

Name &
signature
of witness

Date

C1.2 Contract Data

Data provided by the *Purchaser*

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

Clause	Statement	Data
General		
10.1	The <i>Purchaser</i> is (Name):	Eskom Holdings SOC Limited (reg no: 2002/015527/30), a state owned company incorporated in terms of the company laws of the Republic of South Africa Rodger Peense
	Address	2nd Floor Eskom Bellville Premises, No. 60 Voortrekker Road, Bellville, 7535
	Tel No.	083 708 4083
	Fax No.	
	E-mail address	PeenseRN@eskom.co.za
11.2(4)	The <i>delivery date</i> is [If the <i>goods</i> are instructed by Batch Order enter the data, "The delivery date is identified in the Batch Order"]	On or before 31/03/2022
11.2(5)	The Goods Information is in	the document called 'Goods Information' in Part 3 of this contract.
11.2(8)	The <i>goods</i> are	1 x SF6 Gas detection camera 1 x IR handheld camera
12.2	The <i>law of the contract</i> is	
13.2	The <i>period for reply</i> is	2 weeks
15.1	The <i>premises</i> are	[•]
23.1	The <i>Purchaser</i> requires the <i>Supplier</i> to Provide the Goods when instructed by Batch Order.	No
23.1	If the <i>goods</i> are instructed by Batch Order, the batch order interval is the end date is the quantity range of <i>goods</i> in a batch is	[•] [•] from [•] to [•]
30.1	The <i>starting date</i> is.	Once-off Delivery
41.1	The <i>defects date</i> is	[•] weeks after Delivery.
42.2	The period for the correction of Defects after Delivery is	[•] weeks
50.1	The <i>assessment day</i> is the	Once-off Delivery

50.5	The <i>delay damages</i> are [If the <i>goods</i> are instructed by Batch Order enter a <i>delay damages</i> amount appropriate to the quantity or use of the <i>goods</i> in the Batch]	[●] per day.
51.2	The interest rate on late payment is	[●]% per complete week of delay. [Insert a rate only if a rate less than 0.5% per week of delay has been agreed]
86.1	The <i>Supplier's</i> liability to the <i>Purchaser</i> for indirect or consequential loss, including loss of profit, revenue and goodwill is limited to	Zero
86.2	The <i>Supplier</i> is not liable to the <i>Purchaser</i> for loss of or damage to the <i>Purchaser's</i> property in excess of	[●] for any one event.
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).
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 Institution of Civil Engineers (UK) or its successor body (See www.ice-sa.org.za).
93.4	The <i>tribunal</i> is: If the <i>tribunal</i> is arbitration, the arbitration procedure is	arbitration. the latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.
11.1	The <i>conditions of contract</i> are the NEC3 Supply Short Contract (April 2013) ^{1 2} and the following additional conditions. [Only enter details here if additional conditions are required, otherwise state 'none']	

¹ Can be obtained from Engineering Contract Strategies on www.ecs.co.za, Tel 011 803 3008, Fax 086 539 1902

² If the December 2009 edition is being used, replace April 2013 with December 2009

Z1 Cession delegation and assignment

- Z1.1 The *Supplier* does not cede, delegate or assign any of its rights or obligations to any person without the written consent of the *Purchaser*.
- Z1.2 Notwithstanding the above, the *Purchaser* may on written notice to the *Supplier* 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 and the Electricity Distribution Industry.

Z2 Change of Broad Based Black Economic Empowerment (B-BBEE) status

- Z2.1 Where a change in the *Supplier's* legal status, ownership or any other change to his business composition or business dealings results in a change to the *Supplier's* B-BBEE status, the *Supplier* notifies the *Purchaser* within seven days of the change.
- Z2.2 The *Supplier* is required to submit an updated verification certificate and necessary supporting documentation confirming the change in his B-BBEE status to the *Purchaser* within thirty days of the notification or as otherwise instructed by the *Purchaser*.
- Z2.3 Where, as a result, the *Supplier's* B-BBEE status has decreased since the Contract Date the *Purchaser* may either re-negotiate this contract or alternatively, terminate the *Supplier's* obligation to Provide the Goods.
- Z2.4 Failure by the *Supplier* to notify the *Purchaser* of a change in its B-BBEE status may constitute a reason for termination. If the *Purchaser* terminates in terms of this clause, the procedures on termination are the same as for Reason 3 identified in clause 90.3.

Z3 Waiver and estoppel: Add to clause 12.3:

- Z3.1 Any extension, concession, waiver or relaxation of any action stated in this contract by the Parties, or the *Adjudicator* does not constitute a waiver of rights, and does not give rise to an estoppel unless the Parties agree otherwise and confirm such agreement in writing.

Z4 Provision of a Tax Invoice and interest. Add to clause 51

- Z4.1 The *Supplier* provides the *Purchaser* with a tax invoice in accordance with the *Purchaser's* procedures stated in the Goods Information, showing the correctly assessed amount due.
- Z4.2 If the *Supplier* does not provide a tax invoice by the time required in this contract for his assessment of each amount due, the time by when the *Purchaser* 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 *Purchaser* in terms of core clause 51.2 is then calculated from the delayed date by when payment is to be made.
- Z4.3 The *Supplier* (if registered in South Africa in terms of the companies Act) is required to comply with the requirements of the Value Added Tax Act, no 89 of 1991 (as amended) and to include the *Purchaser's* VAT number 4740101508 on each invoice he submits for payment.

Z5 Purchaser's limitation of liability

- Z5.1 The *Purchaser's* liability to the *Supplier* for the *Supplier's* indirect or consequential loss is

limited to R0.00 (zero Rand)

Z5.2 The *Supplier's* entitlement under the indemnity in 83.1 is provided for in 60.1(8) and the *Purchaser's* liability under the indemnity is limited.

Z6 Termination: Add to clause 90.2 before (Reason 1)

Z6.1 or had a judicial management order granted against it.

Z7 Addition to clause 50.5

Z7.1 If the amount due for the *Supplier's* payment of *delay damages* reaches the limits stated in this Contract Data (if any), the *Purchaser* may terminate the *Supplier's* obligation to Provide the Goods using the same procedures and payment on termination as those applied for Reason 3. Identified in clause 90.3.

Z8 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 <i>Supplier</i> or a third party, such party's employees, agents, or Subcontractors or Subcontractor's employees, or any one or more of all of these parties' relatives or friends,
Coercive Action	means to harm or threaten to harm, directly or indirectly, an Affected Party or the property of an Affected Party, or to otherwise influence or attempt to influence an Affected Party to act unlawfully or illegally,
Collusive Action	means where two or more parties co-operate to achieve an unlawful or illegal purpose, including to influence an Affected Party to act unlawfully or illegally,
Committing Party	means, as the context requires, the <i>Supplier</i> , 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.

Z8.1 A Committing Party may not take any Prohibited Action during the course of the procurement of this contract or in execution thereof.

Z8.2 The *Purchaser* may terminate the *Supplier's* obligation to Provide the Services if a Committing Party has taken such Prohibited Action and the *Supplier* did not take timely and appropriate action to prevent or remedy the situation, without limiting any other rights or remedies the *Purchaser* 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 *Purchaser* can terminate the *Supplier's* obligation to Provide the Services for this reason.

- Z8.3 If the *Purchaser* terminates the *Supplier'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.
- Z8.4 A Committing Party co-operates fully with any investigation pursuant to alleged Prohibited Action. Where the *Purchaser* does not have a contractual bond with the Committing Party, the *Supplier* ensures that the Committing Party co-operates fully with an investigation.

Z9 Insurance

Replace condition of contract 84 with the following:

Insurance cover 84

- 84.1** 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.
- 84.2** The *Supplier* provides the insurances in this Insurance Table A from the *starting date* until Delivery and against any risks he carries under this contract between Delivery and the *defects date*.

INSURANCE TABLE A

Insurance against	Minimum amount of cover or minimum limit of indemnity
Loss of or damage to the <i>goods</i> , plant and materials	The replacement cost where not covered by the <i>Purchaser's</i> insurance. The <i>Purchaser's</i> policy deductible as at contract date where covered by the <i>Purchaser's</i> insurance.
Liability for loss of or damage to property (except the <i>goods</i> , plant and materials and equipment) and liability for bodily injury to or death of a person (not an employee of the <i>Supplier</i>) caused by activity in connection with this contract	<u>Loss of or damage to property</u> <u><i>Purchaser's</i> property</u> The replacement cost where not covered by the <i>Purchaser's</i> insurance. The <i>Purchaser's</i> policy deductible as at contract date, where covered by the <i>Purchaser's</i> insurance.

	<u>Other property</u> The replacement cost Death of or bodily injury The amount required by the applicable law.
Liability for death of or bodily injury to employees of the <i>Supplier</i> arising out of and in the course of their employment in connection with this contract	The amount required by the applicable law

84.2 The Purchaser provides the insurances in this Insurance Table B

INSURANCE TABLE B

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

Z10 Nuclear Liability

- Z10.1 The *Purchaser* 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.

- Z10.2 The *Purchaser* is solely responsible for and indemnifies the *Supplier* or any other person against any and all liabilities which the *Supplier* 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 *Supplier* or any other person or the presence of the *Supplier* or that person or any property of the *Supplier* or such person at or in the KNPS or on the KNPS site, without the permission of the *Purchaser* or of a person acting on behalf of the *Purchaser*.
- Z10.3 Subject to clause Z10.4 below, the *Purchaser* 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 *Supplier* or any other person, or the presence of the *Supplier* or that person or any property of the *Supplier* or such person at or in the KNPS or on the KNPS site, without the permission of the *Purchaser* or of a person acting on behalf of the *Purchaser*.
- Z10.4 The *Purchaser* 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.
- Z10.5 The protection afforded by the provisions hereof shall be in effect until the KNPS is decommissioned.

Z11 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 *Purchaser'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.
- Z11.1** The *Purchaser* ensures that the Ambient Air in the area where the *Supplier* 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.
- Z11.2** Upon written request by the *Supplier*, the *Purchaser* 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 *Supplier* may perform Parallel Measurements and related control measures at the *Supplier'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 Z11.1. Control measures conform to the requirements stipulated in the AAIA-approved asbestos work plan.
- Z11.3** The *Purchaser* manages asbestos and ACM according to the Standard.
- Z11.4** 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.
- Z11.5** The *Supplier'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.
- Z11.6** The *Supplier* 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.
- Z11.7** Any removal and disposal of asbestos, asbestos containing materials and waste, is done by a registered asbestos contractor, instructed by the *Purchaser* at the *Purchaser's* expense, and

conducted in line with South African legislation.

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

The tendering Supplier is advised to read both the NEC3 Supply Short Contract (April 2013) and the relevant parts of its Guidance Notes (SSC3-GN)³ 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 28 of the SSC3 Guidance Notes and Flow Charts.

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

10.1	The <i>Supplier</i> is (Name):	[•]
	Address	[•]
	Tel No.	[•]
	Fax No.	[•]
	E-mail address	[•]
11.2(7)	The Price Schedule is in	the document called 'Price Schedule' in Part 2 of this contract.
11.2(7)	The offered total of the Prices	See C1.1 Form of Offer and Acceptance
63.2	The percentage for overheads and profit added to the Defined Cost is	[•]%

³ Available from Engineering Contract Strategies on www.ecs.co.za Tel 011 803 3008, Fax 086 539 1902.

C2 Pricing Data

C2.1 Pricing assumptions

Entries in the first four columns of this Price Schedule are made either by the *Purchaser* or the tenderer. If the *Supplier* is to be paid an amount for the item which is not adjusted if the quantity of goods 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 *Supplier* is to be paid an amount for the item of goods which is the rate for the goods multiplied by the quantity supplied, the tenderer enters a rate for each item and multiplies it by the Quantity to produce the Price, to be entered in the final column.

The rates and Prices entered for each item includes for all work and other things necessary to supply the item.

C2.2 Price Schedule

The rates and Prices entered for each item includes for all work and other things necessary to supply the item.

Item no.	Description	Unit	Quantity	Rate	Price
1.	Supply and deliver SF6 Gas Detection Camera	Each	1		
2.	Supply and Deliver Infra-Red Handheld Camera	Each	1		

Total of the Prices

NB: Please take note of the following:

1. SF6 Detection Camera needs to comply to the following minimum requirements:

Specifications:

SF6 Optical Gas Imaging Detector

Type Focal plane array, cooled QWIP;

Spectral Range 10.3 – 10.7 μm ; Resolution 320 x 240 pixels;

Detector Pitch 30 μm ;

NETD/Thermal Sensitivity < 15 mK @ +30°C (+86°F)

Sensor Cooling Stirling Micro-cooler (FLIR MC-3)

Electronics / Imaging - Image Modes IR image, visual image, High Sensitivity Mode (HSM)

Frame Rate (Full Window) 60 Hz Dynamic Range 14-bit Video Recording / Streaming

Real-time non-radiometric recording: MPEG4/H.264 (up to 60 min./clip) to memory card

Real-time non-radiometric streaming: RTP/MPEG4 Visual Video MPEG4 (25 min./clip) to memory card

Visual Image 3.2 MP from integrated visible camera

GPS Location data stored with every image Camera Control Remote camera control via USB

Measurement - Temperature range –40°C to +500°C (–40°F to +932°F)

Accuracy $\pm 1^\circ\text{C}$ $\pm 1.8^\circ\text{F}$ for temperature range (0°C to +100°C, +32°F to +212°F) or $\pm 2\%$ of reading for temperature range (>+100°C, >+212°F)

File Storage - Storage Media Removable SD or SDHC memory card; two card slots

Image Storage Capacity > 1200 images (JPEG) with post-process capability per GB on memory card

Optics - Camera f/number f/1.5 Available Fixed Lenses 14.5° (38 mm), 24° (23 mm)

Focus Automatic (one touch) or manual (electric or on the lens)

Image Presentation - On-Camera Display Built-in widescreen, 4.3 in. LCD, 800 x 480 pixels

Automatic Gain Control Continuous/manual, linear, histogram

Menu Commands Level/span, auto adjust continuous/manual/semi-automatic, zoom, palette, start/stop recording, store image, playback/recall image Colour palettes Iron, Gray, Rainbow, Arctic, Lava, Rainbow HC

Zoom 1-8x continuous, digital zoom

General

Operating Temperature Range –20°C to +40°C (–4°F to +104°F)

Storage Temperature Range –30°C to +60°C (–22°F to +140°F)

Encapsulation IP 54 (IEC 60529)

Bump / Vibration 25 g (IEC 60068-2-27) / 2 g (IEC 60068-2-6)

Power AC adapter 90-260 VAC, 50/60 Hz or 12 V from a vehicle

Battery System Rechargeable Li-ion battery

Weight w/ Battery & Lens 2.48 kg (5.47 lb.)

Size (L x W x H) w/ Lens 305 x 169 x 161 mm (12.0 x 6.7 x 6.3 in.)

Mounting UNC 1/4"-20

2. Infra-Red Camera needs to comply to the following minimum requirements:

Camera: Infra Red;

3.6V; 240*180; 640*480

Thermal sensitivity/NETD < 0.06°C (0.11°F) / < 60 mK

Field of view (FOV) 45° × 34°

Minimum focus distance 0.5 m (1.6 ft.)

Spatial resolution (IFOV) 3.4 mrad

F-number 1.5

Image frequency 9 Hz

Focus Focus free

Detector data

Detector type Focal plane array (FPA), uncooled microbolometer

Spectral range 7.5–13 µm

Image presentation

Display 3.0 in. 320 × 240 colour LCD

Image adjustment Automatic/Manual

Image presentation modes

Image modes Thermal MSX, Thermal, Picture-in-Picture, Thermal blending, Digital camera.

Multi Spectral Dynamic Imaging (MSX) IR image with enhanced detail presentation

Picture-in-Picture IR area on visual image

Measurement

Object temperature range –20°C to +250°C (–4°F to +482°F)

10°C to 550°C (50°F to +1022°F)

Accuracy ±2°C (±3.6°F) or ±2% of reading, for ambient temperature 10°C to 35°C (+50°F to 95°F) and object temperature above +0°C (+32°F)

Measurement analysis

Spot meter, Centre spot Area Box with max./min.

Isotherm Above alarm, Below alarm

Emissivity correction Variable from 0.1 to 1.0

Emissivity table Emissivity table of predefined materials

Reflected apparent temperature correction Automatic, based on input of reflected temperature

Set-up

Colour palettes Black and white, iron and rainbow

Set-up commands Local adaptation of units, language, date and time formats

Storage of images

File formats Standard JPEG, 14-bit measurement data included

Digital camera

Digital camera, resolution 640 × 480

Digital camera, FOV 55° × 43°

Data communication interfaces

Interfaces USB Micro: Data transfer to and from PC and Mac device

Wi-Fi Peer-to-peer (ad hoc) or infrastructure (network)

Radio

Wi-Fi • Standard: 802.11 b/g/n

- Frequency range:

- 2400–2480 MHz

- 5150–5260 MHz

- Max. output power: 15 dBm

Power system

Battery type Rechargeable Li ion battery

Battery voltage 3.6 V

Battery operating time Approx. 4 hours at +25°C (+77°F) ambient temperature and typical use

Charging system Battery is charged inside the camera or in specific charger.

Power system

Charging time 2.5 hours to 90% capacity in camera. 2 hours in charger.

Power management Automatic shut-down

AC operation AC adapter, 90–260 VAC input, 5 VDC output to camera

Environmental data

Operating temperature range -15°C to $+50^{\circ}\text{C}$ ($+5^{\circ}\text{F}$ to $+122^{\circ}\text{F}$)
Storage temperature range -40°C to $+70^{\circ}\text{C}$ (-40°F to $+158^{\circ}\text{F}$)
Humidity (operating and storage) IEC 60068-2-30/24 h 95% relative humidity

C3: Scope of Work

C3.1 Goods Information

Supply and delivery of 1 x SF6 Gas Detection camera and 1 x Infra-red handheld camera to Eskom Transmission Western Grid at 2nd Floor Eskom Bellville Premises, No. 60 Voortrekker Road, Bellville

1. Description of the goods

SF6 Detection Camera needs to comply to the following minimum requirements:

Specifications:

SF6 Optical Gas Imaging Detector

Type Focal plane array, cooled QWIP;

Spectral Range 10.3 – 10.7 μm ; Resolution 320 x 240 pixels;

Detector Pitch 30 μm ;

NETD/Thermal Sensitivity < 15 mK @ +30°C (+86°F)

Sensor Cooling Stirling Micro-cooler (FLIR MC-3)

Electronics / Imaging - Image Modes IR image, visual image, High Sensitivity Mode (HSM)

Frame Rate (Full Window) 60 Hz Dynamic Range 14-bit Video Recording / Streaming

Real-time non-radiometric recording: MPEG4/H.264 (up to 60 min./clip) to memory card

Real-time non-radiometric streaming: RTP/MPEG4 Visual Video MPEG4 (25 min./clip) to memory card

Visual Image 3.2 MP from integrated visible camera

GPS Location data stored with every image Camera Control Remote camera control via USB

Measurement - Temperature range –40°C to +500°C (–40°F to +932°F)

Accuracy $\pm 1^\circ\text{C} \pm 1.8^\circ\text{F}$ for temperature range (0°C to +100°C, +32°F to +212°F) or $\pm 2\%$ of reading for temperature range (>+100°C, >+212°F)

File Storage - Storage Media Removable SD or SDHC memory card; two card slots

Image Storage Capacity > 1200 images (JPEG) with post-process capability per GB on memory card

Optics - Camera f/number f/1.5 Available Fixed Lenses 14.5° (38 mm), 24° (23 mm)

Focus Automatic (one touch) or manual (electric or on the lens)

Image Presentation - On-Camera Display Built-in widescreen, 4.3 in. LCD, 800 x 480 pixels

Automatic Gain Control Continuous/manual, linear, histogram

Menu Commands Level/span, auto adjust continuous/manual/semi-automatic, zoom, palette, start/stop recording, store image, playback/recall image Colour palettes Iron, Gray, Rainbow, Arctic, Lava, Rainbow HC

Zoom 1-8x continuous, digital zoom

General

Operating Temperature Range –20°C to +40°C (–4°F to +104°F)

Storage Temperature Range –30°C to +60°C (–22°F to +140°F)

Encapsulation IP 54 (IEC 60529)

Bump / Vibration 25 g (IEC 60068-2-27) / 2 g (IEC 60068-2-6)

Power AC adapter 90-260 VAC, 50/60 Hz or 12 V from a vehicle

Battery System Rechargeable Li-ion battery

Weight w/ Battery & Lens 2.48 kg (5.47 lb.)

Size (L x W x H) w/ Lens 305 x 169 x 161 mm (12.0 x 6.7 x 6.3 in.)

Mounting UNC 1/4"-20

Infra-Red Camera needs to comply to the following minimum requirements:

Camera: Infra Red;

3.6V; 240*180; 640*480

Thermal sensitivity/NETD < 0.06°C (0.11°F) / < 60 mK

Field of view (FOV) 45° × 34°

Minimum focus distance 0.5 m (1.6 ft.)

Spatial resolution (IFOV) 3.4 mrad

F-number 1.5

Image frequency 9 Hz

Focus Focus free

Detector data

Detector type Focal plane array (FPA), uncooled microbolometer

Spectral range 7.5–13 µm

Image presentation

Display 3.0 in. 320 × 240 colour LCD

Image adjustment Automatic/Manual

Image presentation modes

Image modes Thermal MSX, Thermal, Picture-in-Picture, Thermal blending, Digital camera.

Multi Spectral Dynamic Imaging (MSX) IR image with enhanced detail presentation

Picture-in-Picture IR area on visual image

Measurement

Object temperature range –20°C to +250°C (–4°F to +482°F)

10°C to 550°C (50°F to +1022°F)

Accuracy ±2°C (±3.6°F) or ±2% of reading, for ambient temperature 10°C to 35°C (+50°F to 95°F) and object temperature above +0°C (+32°F)

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Humidity (operating and storage) IEC 60068-2-30/24 h 95% relative humidity

2. Specifications

List the specifications that apply to this contract. Some typical headings have been provided as a minimum; delete if not required or expand and include correct titles as applicable.

Title	Date or revision	Tick if publicly available
<u>General Specifications:</u>		
Health and Safety requirements		
Environmental requirements		
<u>Technical specifications:</u>		
As defined in C3:Scope of Work		

3. Constraints on how the *Supplier* Provides the Goods

State any constraints on how the *Supplier* is to provide the *goods* such as any limits on subcontracting. Also include any management related constraints, invoicing and payment procedures some of which have been inserted below as a minimum guide.

3.1 Subcontracting

State whether there are any controls on who the *Supplier* may subcontract to.

3.2 Use of standard forms

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

3.3 Invoicing and payment

List information which is to be shown on an invoice. The following text is provided as a guide; revise to suit actual requirements.

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

Invoices to be sent to ScholtzE@eskom.co.za

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

- Name and address of the *Supplier*
- The contract number and title;
- *Supplier's* VAT registration number;
- The *Purchaser's* VAT registration number which is _____;
- The total of
 - The Price for each lump sum item in the Price Schedule or Batch Order which the *Supplier* has completed;
 - Where a quantity is stated for an item in the Price Schedule or Batch Order, an amount calculated by multiplying the quantity which the *Supplier* has completed by the rate,
- Other amounts to be paid to the *Supplier*;
- Less amounts to be paid by or retained from the *Supplier*;
- The invoiced amount - excluding VAT, the VAT and including VAT;
- (add other as required)

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

3.4 Records of Defined Cost

In order to substantiate the Defined Cost of compensation events, the *Purchaser* may require the *Supplier* to keep records of amounts paid by him for people employed by the *Supplier*, plant and materials, work subcontracted by the *Supplier* and equipment. [See clause 11.2(2) and 63.2]. State in what form these records are to be kept and how accessed by the *Purchaser*.

3.5 BBBEE and preferencing scheme

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

3.6 Cataloguing requirements by the *Supplier*

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

4. Requirements for the programme

This information is required by clause 32.1. State whether a programme is required and, if it is, state what form it is to be in, what information is to be shown on it, when it is to be submitted and when it is to be updated.

5. Services and other things provided by the *Purchaser*

Describe what the *Purchaser* will provide, in connection with the supply of the *goods*, such as transport, loading or unloading of the *goods*.

Item	Date by which it will be provided
Access	
Ablution Facilities	

6. Supply requirements

State the information which describes the *Purchaser's* requirements (other than services he is to provide) in connection with the supply of the *goods* including the requirements for transport, the mode of transport and the loading and unloading of the *goods*.

State the delivery place, the hours of access to the delivery place and other information to be provided by the *Supplier* at the time of Delivery such as the delivery note, which notifies the actual delivery date. The information necessary for a purchase that involves international, cross border, transactions should be stated here, such as export and import requirements of the Customs authorities.

Prior arrangement for delivery to be made with:

Ettienne Scholtz
Senior Supervisor HV Plant
Tel +27 21 915 2004
Cel +27 83 235 0370
Email: scholtze@eskom.co.za

Batch Order

Batch Order form for use when the Contract Data states that, in terms of clause 23, the *Purchaser* requires the *Supplier* to supply the *goods* in batches.

Contract number [•]

Batch Order No. [•]

Date

To: [•].....
..... (*Supplier*)

I instruct you to supply the following *goods* selected from the Price Schedule:

Item no.	Description	Unit	Quantity	Rate	Price

Total of the Prices for the Batch Order

--

The start date is [•]

The *delivery date* is [•]

Signed:

Name (in print)

(for *Purchaser*)