



NEC3 Supply

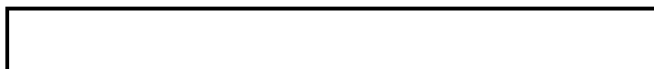
Short Contract (SSC3)

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

and

for Supply and delivery of 5 complete solar floodlight systems in accordance with Eskom Procedure: 240-126210656 LED Street Lighting for Eskom Properties

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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:

Supply and delivery of 5 complete solar floodlight systems in accordance with Eskom Procedure: 240-126210656 LED Street Lighting for Eskom Properties

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:**

(Insert name and address of organisation)

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)

(Insert name and address of organisation)

Name &
signature
of witness

Date

C1.2 Contract Data

Data provided by the *Purchaser*.

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
	Address	Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg
	Tel No.	[•]
	Fax No.	[•]
	E-mail address	[•]
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"]	To be advised by supplier
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	Supply and delivery of five (5) complete solar floodlightsystems in accordance with Eskom Procedure: 240-126210656 LED Street Lighting for Eskom Properties
12.2	The <i>law of the contract</i> is	South African law
13.2	The <i>period for reply</i> is	1 week
15.1	The <i>premises</i> are	Majuba Underground Coal Gasification Site, Bergvliet Farm Amersfoort Mpumalanga
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,	N/A
	the batch order interval is	N/A
	the end date is	N/A
	the quantity range of <i>goods</i> in a batch is	from N/A
30.1	The <i>starting date</i> is.	Contract Award Date
41.1	The <i>defects date</i> is	3 months after Delivery.
42.2	The period for the correction of Defects after Delivery is	3 months
50.1	The <i>assessment day</i> is the	25th of each month.

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]	N/A.
51.2	The interest rate on late payment is	
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	N/A.
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 conditions of contract 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 goods, plant and materials	<p>The replacement cost where not covered by the <i>Purchaser's</i> insurance.</p> <p>The <i>Purchaser's</i> policy deductible as at contract date where covered by the <i>Purchaser's</i> insurance.</p>
Liability for loss of or damage to property (except the goods, 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	<p><u>Loss of or damage to property</u></p> <p><u><i>Purchaser's</i> property</u></p> <p>The replacement cost where not covered by the <i>Purchaser's</i> insurance.</p> <p>The <i>Purchaser's</i> policy deductible as at contract date, where covered by the <i>Purchaser's</i> insurance.</p> <p><u>Other property</u></p> <p>The replacement cost.</p>

	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 <i>Purchaser's</i> 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	0%

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	Complete Solar flood light (including battery, charge controller and solar panel) as per the specifications provided	ea	5		
2	Delivery at Majuba UCG Site Bergvliet Farm, Amersfoort Mpumalanga	ea	1		

Total of the Prices

C3: Scope of Work

C3.1 Goods Information

1. Description of the goods

1.1 Scope

Supply and delivery of solar streetlights to the Majuba UCG Site. The light must be a single unit or a specifically designed system that conforms to the specifications in Eskom Procedure: 240-126210656 LED Street Lighting for Eskom Properties. This section deals with the relevant specification that need to be met.

1.1.1 Principle Requirements

Street lighting shall in all aspects conform to the requirements of SANS 10098-1, SANS 10098-2 and artificial lighting of exterior areas for work and safety (roads) SANS 10389-1.

1.1.2 Light level requirements

A recommended lighting value for the average horizontal illuminance of 3 lux (minimum) is required.

1.1.3 Photometric requirements

- The light colour must be "Neutral White" (4000K).
- The colour rendering index must be equal to or greater than 70.
- The luminaire efficacy must be equal to or greater than 100 lm/W.
- The luminaire downward light output ratio must be equal to or greater than 100%.
- The luminaire must reach its full brightness instantaneous.
- IES and/or LTD files for use with DIALux or Relux must be supplied in electronic format.
- The illumination pattern of acceptable luminaires shall be in the "bat wing" shape as indicated in Figure 1 to ensure sufficient forward and lateral light distribution.

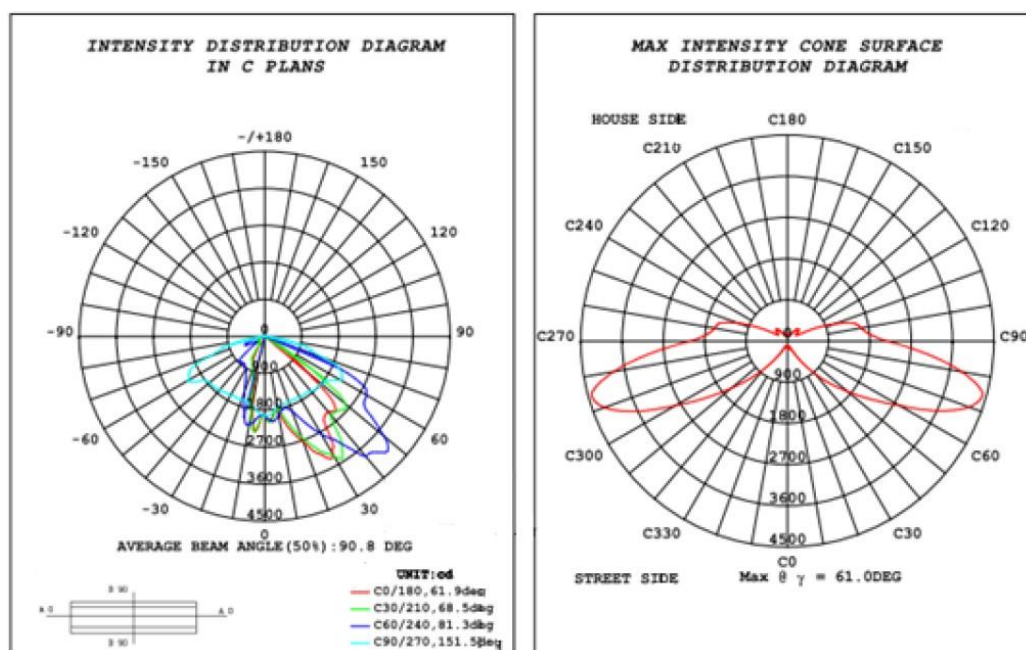


Figure 1: Indicative acceptable illumination pattern.

1.1.4 Electrical requirements

- a) Luminaire input voltage shall be 230V AC $\pm 10\%$.
- b) Luminaire operating frequency shall be 50Hz $\pm 5\%$.
- c) The luminaire nominal power consumption must not exceed 90W.
- d) Luminaire efficiency (lm/W) shall be equal to or greater than 90%.
- e) Luminaire power factor shall be equal to or better than 0.95.
- f) Luminaire total harmonic distortion shall be equal to or less than 20%.
- g) The surge protection unit shall at least withstand an overvoltage of 10kV/10kA. Preferably it shall comply with the requirements of IEC 61643-11/EN 61643-11.
- h) The luminaire shall be a CLASS 1 type in accordance with the description given in SANS 60598-1: 2014 Ed 6 (IEC 60598-1: 2014 Ed 8) Section 1 Clause 1.2.22.
- i) Each luminaire will have a photocell (PECU) and shall comply with the illuminance levels for switching requirements given in SANS 1777: 2017 Ed. 1.4. – Photoelectric Control units for lighting (PCU's). See Section 5 Clause 5.5 for test method.

1.1.5 Electromagnetic Requirements

Proposed luminaires shall comply with EN 55015

1.1.6 Mechanical requirements

- a) All external parts and components of the luminaire must be designed to shed debris and water and ensure that accumulation of condensation or precipitation does not occur. An exterior lip must be present on the housing to ensure that there is no direct rainwater contact with the gasket, between the housing and the diffuser. This ensures that no moisture is drawn into the diffuser when the luminaire is switched off and cools down.
- b) Luminaires shall be constructed from durable lightweight materials and must be accompanied by comprehensive test reports certifying that the luminaires have successfully passed SANS 475.
- c) Luminaires shall be supplied complete with control gear, lamp and mounting brackets.
- d) Luminaires shall not be spray painted but shall be left bare, or powder coated and baked, to achieve the required corrosion protection level. Ferrous components must be hot-dip galvanized in accordance with SANS 121. All external small components such as; clips, screws, bolts, nuts, washers, etc., must be manufactured from stainless steel (grade 304 or better).
- e) The colour of the luminaire shall be Grey G29.
- f) Diffusers / lenses must not have external prisms that could accumulate dirt and dust, and thus reduce the light output of the luminaires. Diffusers must be constructed in such a manner that the wall thickness of the material is maintained at a constant thickness, hence preventing the projection of lines or patterns onto the ground level.
- g) LED drivers shall be fully housed within the body of the luminaire.
 - The control gear or driver shall be in its own compartment complying with the required IP rating in accordance with SANS 60529.
 - VAC $\pm 10\%$ 50Hz single-phase electrical power supply system.
- h) The complete luminaire must have an IK rating of 08 or better.
- i) The complete luminaire must have an IP rating of 67 or better.
- j) The luminaire must be tilt adjustable relative to the horizontal plane with a protractor included to set the luminaires to the required angles.
- k) The luminaire must be supplied with the necessary means for secure fitting onto the street pole or wall.
- l) The luminaire dimensions and weight shall be specified.
- m) The number of modules and LEDs per module shall be specified.
- n) The operating temperature range shall be -10°C to $+60^{\circ}\text{C}$. The operating relative humidity range shall be 10% to 70%.

1.1.7 Guarantees

- a) Each luminaire housing for a minimum period of ten (10) years.
- b) The electrical components for 30 000 hours (five years).
- c) The LED modules for 30 000 hours (five years).
- d) Any luminaire found unsuitable for use, its IP rating compromised within a period of ten years from date of delivery, or not performing acceptably must be replaced free of charge by the supplier.

1.1.8 Maintenance strategy

- a) The tenderer/s must provide Eskom with a sustainable maintenance/cleaning strategy for the proposed luminaires.
- b) This strategy must ensure that a maintenance factor of at least 0.80 will be maintained for the LED luminaires for the duration of the expected service life.

1.1.9 Documentation to be submitted.

- a) The following documentation must be submitted per proposed luminaire:
 - Proof of compliance to SANS / IEC 60598-1
 - Proof of compliance to SANS 475
 - Proof of compliance to EN 55015
 - Completed technical Schedule B in Annexure A of Eskom procedure 240-126210656 LED Street Lighting for Eskom Properties and included (duplicated) in technical specification returnable.
 - .IES and/or .LTD files supplied in electronic format
 - Photometric test reports per luminaire offered.
 - Test report indicating IK rating verification.
 - Test report indicating IP rating verification.
 - Luminaire guarantee certificate.
 - Certificate indicating lead time for delivery from date of order.
 - Luminaire maintenance strategy.
 - No luminaire will be approved if all these test reports are not provided.
- b) Luminaire data and documentary evidence of compliance in the form of reports and certificates by a national or international accredited laboratory stating the tests conducted and associated results must be submitted at the time of submission.
- c) One (1) draft copy of the operating, training and maintenance and spares manuals must be supplied to Eskom for approval at time of tender submission and subsequently, three (3) final copies of the approved manuals and as-built drawings and wiring diagrams must be supplied at time of commissioning.
- d) Factory acceptance tests are required and must take place at the Contractor's factory / assembly plant prior to delivery of luminaires and associated control equipment to Eskom site.

1.1.10 Solar power component technical requirements:

Solar lights can be supplied as a single unit or a single compatible system. Each supplier is to comply with the requirements within this section.

1.1.10.1 Batteries

- a) Fully sealed, maintenance free lithium-ion battery with an 8hr – 10 hr discharge, or suitable alternative.
- b) Up to 8 years design service life (provide warranty)
- c) Any battery found unsuitable for use, within a period of warranty from date of delivery, or not performing acceptably must be replaced free of charge by the supplier.
- d) The battery must be supplied with the necessary housing and means for secure fitting onto the street pole or wall. All mechanical requirements must conform to specification in section 5.6 of this scope.

1.1.10.2 Charge Controller

- a) PWM (Pulse Width Modulation) control
- b) Series battery charging
- c) Automatic Voltage detection
- d) Voltage and Current regulation
- e) Current compensated Low Voltage Disconnect (LVD)
- f) Integrated self-test.
- g) LED's indicate charge status and faults.
- h) Electronic Protection:
 - Short-circuit - solar and load.
 - Overload - solar and load
 - Reverse polarity – module, load and battery

- Reverse current at night
 - High temperature disconnect.
 - Automatic Electronic fuse
 - Overcharge
 - Deep discharge
- i) PCU (Photocell Control Unit) as standard for switching load.
- j) Timer controller (available on request) for switching load.
- k) Reliable 100% light output and operation from sunset to sunrise
- l) 2-day Standard System autonomy without a charge (extended autonomy on available on request)

1.1.10.3 Solar Panels

- a) Polycrystalline or Monocrystalline PV Panels
- b) Aluminium Frame
- c) IP67 rating
- d) Operating Temperature range -10°C to 55°C
- e) Front glass thickness: 4mm
- f) Warranty of 8 years on all solar panels
- g) The solar panels must be supplied with the necessary means for secure fitting onto the street pole or wall as per the examples given in Figure 2. All mechanical requirements must conform to specification in section 5.6 of this scope.

1.1.11 Other information

- a) Delivery to take place at the Majuba UCG site in Mpumalanga.
- b) The supplier is to provide a product that complies with the Eskom procedure: 240-126210656 LED Street Lighting for Eskom Properties.
- c) All sundry and auxiliary equipment, connections and fittings including mounting bracket, casings, etc for the mounting of the lights, battery and solar panel (pole or wall mounted installation).
- d) Solar panels, lights and batteries must be a single enclosed unit or specifically designed compatible system.

2. Specifications

Title	Date or revision	Tick if publicly available
<u>Technical specifications:</u>		
SANS / IEC 60598	latest revision	x
SANS 475	latest revision	x
Eskom procedure: 240-126210656	latest revision	x

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

None

3.1 Subcontracting

N/A

3.2 Use of standard forms

The standard NEC 3 forms for SCC shall be used.

3.3 Invoicing and Payments

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:

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)

3.4 Records of Defined Cost

N/A

3.5 BBBEE and preferencing scheme

As per Eskom Procurement Supply Chain Policy.

3.6 Cataloguing requirements by the *Supplier*

N/A

4. Requirements for the programme

N/A

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

The supplier provides all goods as specified in the goods information. Delivery shall be at Majuba UCG site Bergvliet farm, Amersfoort Mpumalanga.

6. Supply requirements

The supplier provides all warranty or guarantee certificates for the solar system and lights fittings.

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*)