

कार्यालय पुलिस उपमहानिरीक्षक, पीएसी लखनऊ अनुभाग, लखनऊ-226006
फोन/फैक्स- 91-522-2326520, सीयूजी-9454418830, ईमेल-diglkwsec@uppac.net वेब- www.uppolice.gov.in
पत्र संख्या: पीएसी-एल/एस-एचसी-125/2016 दिनांक : लखनऊ सितम्बर 14, 2016

निविदा सूचना

उ0प्र0शासन के शासनादेश संख्या:1457/6-पु-7-16 -71-2015 दिनांक 20.06.2016 के क्रम में पीएसी मुख्यालय, उ0प्र0 लखनऊ के पत्र संख्या:पीएसी-111-514 (5/10)2016 दिनांक 06.07.2016 के अनुसार पीएसी बल के प्रयोगार्थ 100 अदद सोलर लाइट क्रय किया जाना है। पुलिस/पीएसी विभाग द्वारा क्रय किये जा रहे उपकरणों को भारत सरकार के उपक्रमों के माध्यम से क्रय किये जाने हेतु प्रमुख सचिव, लघु उद्योग, उ0प्र0 शासन के शासनादेश संख्या: 1783/18-5-08/32 (एस0पी0) 2008 दिनांक 03-12-2008 द्वारा विभाग को प्राधिकृत किया गया है। इन शासनादेशों के आलोक में सोलर लाइट का क्रय भारत सरकार के उपक्रमों के माध्यम से किया जाना प्रस्तावित है।

2- इच्छुक उक्त भारत सरकार के उपक्रम अपने शील्ड तकनीकी भावपत्र (दो शील्ड लिफाफा मूल तकनीकी भावपत्र एवं डुप्लीकेट तकनीकी भावपत्र) अलग-अलग प्रेषित करें। भावपत्र के साथ दो सैम्पल भी निर्धारित स्पेसिफिकेशन के अनुसार पुलिस उप महानिरीक्षक, पीएसी लखनऊ अनुभाग, लखनऊ को प्रेषित करें।

3- सोलर लाइट की तकनीकी विशिष्टियां उ0प्र0 पुलिस की वेबसाइट www.uppolice.gov.in एवं सूचना विभाग की वेबसाइट www.upgov.nic.in से प्राप्त की जा सकती है।

4- सामग्री की आपूर्ति कयादेश निर्गत होने से अधिकतम 01 माह होगी।

क्रमांक	उपकरण का नाम	कुल मात्रा	विवरण
1	सोलर लाइट	100 अदद	Details Specification enclosed in Website.

5- प्रकरण की समय सारणी निम्नवत निर्धारित की जाती है :-

1- तकनीकी भावपत्र तथा वित्तीय भावपत्र एवं सैम्पल जमा करने की अन्तिम तिथि-	05-10-2016 समय 12.00 बजे
2- तकनीकी बिड का खोला जाना -	05-10-2016 समय 13.00 बजे
3- उपकरण का प्रदर्शन तथा नाप-जोख -	05-10-2016 समय 15.30 बजे
4- वित्तीय भावपत्र खोलना तथा क्रय समिति की बैठक	06-10-2016 समय 11.00 बजे

(प्रवीण कुमार)

पुलिस उप महानिरीक्षक पीएसी,
लखनऊ अनुभाग, लखनऊ।

दिनांक 29.07.2016 को सेनानायक, 32वीं वाहिनी पीएसी, लखनऊ कार्यालय में सेनानायक, 32वीं वाहिनी पीएसी, लखनऊ की अध्यक्षता में पीएसी हेतु स्वीकृत 100 अदद सोलर लाइट के कय हेतु स्पेसीफिकेशन तैयार किये जाने हेतु आयोजित तकनीकी समिति की गोष्ठी का कार्यवृत्त।

उक्त गोष्ठी में निम्नलिखित अधिकारी उपस्थित रहे :-

- | | | |
|--|---|-----------------|
| 1. श्री आर०पी०एस० यादव, सेनानायक, 32वीं वाहिनी पीएसी, लखनऊ | - | अध्यक्ष |
| 2. श्री सी०पी० गुप्ता, अधीक्षण अभियन्ता लो०नि०वि० लखनऊ | - | तकनीकी विशेषज्ञ |
| 3. श्री रवि शंकर निम, उप सेनानायक, 32वीं वाहिनी पीएसी, लखनऊ | - | सदस्य |
| 4. श्री मोहन चन्द्र पाण्डेय, सहायक सेनानायक, 35वीं वाहिनी पीएसी लखनऊ | - | सदस्य |

तकनीकी समिति द्वारा **Ministry of New and Renewable Energy** नई दिल्ली से तकनीकी स्पेसीफिकेशन प्राप्त किया गया तथा उसका अध्ययन किया गया एवं उसी को आधार मानकर तकनीकी स्पेसीफिकेशन तैयार किया गया है, जिसका विवरण निम्नवत् है :-

WHITE-LED (W-LED) BASED SOLAR STREET LIGHTING SYSTEM

A standalone solar photovoltaic street lighting system (SLS) is an outdoor lighting unit used for illuminating a street or an open area. The Solar Street Lighting System consists of solar photovoltaic (SPV) module, a luminaire, storage battery, control electronics, inter-connecting wires/cables, module mounting pole including hardware and battery box. The luminaire is based on White Light Emitting Diode (W-LED), a solid state device which emits light when electric current passes through it. The luminaire is mounted on the pole at a suitable angle to maximize illumination on the ground. The PV module is placed at the top of the pole at an angle facing south so that it receives solar radiation throughout the day, without any shadow falling on it. A battery is placed in a box attached to the pole.

Electricity generated by the PV module charges the battery during the day time which powers the luminaire from dusk to dawn. The system lights at dusk and switches off at dawn automatically.

WHITE-LED (W-LED) Based Solar Street Lighting System

- The Street light operates from dusk to dawn at full Brightness.

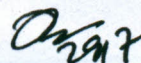
(Dusk to Dawn, Full Light Level)

BROAD PERFORMANCE SPECIFICATIONS

PV Module	100 Wp under STC.
Battery	Lead acid Tubular Flooded or Tubular GEL / VRLA , 12V- 100 AH @ C/10.
Light Source	White Light Emitting Diode (W-LED) 24 Watt , W-LED luminaire, dispersed beam, soothing to eyes with the use of proper optics and diffuser.
Light Out put	Luminous flux-1800±10%. Minimum standard Lux when measured at the periphery of 4 meter diameter from a height of 4 meter. The illumination should be uniform without dark bands or abrupt variations, and soothing to the eye. Higher light output will be preferred.
Mounting of light	Minimum 4 metre pole mounted.



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Electronics Efficiency

Minimum 85% total.

Duty Cycle

Dusk to dawn.

Autonomy

3 (1+2) days or Minimum 42 operating hours per permissible discharge.

IP rating

IP 65.

Dispersion angle

120 degree.

TECHNICAL DETAILS

PV MODULE

- (i) Indigenously manufactured PV module should be used.
- (ii) The PV module should have crystalline silicon solar cells and must have a certificate of testing conforming to IEC 61215 Edition II / BIS 14286 from an NABL or IECQ accredited Laboratory.
- (iii) The power output of the module(s) under STC should be a minimum of 100 Wp at a standard load voltage.
- (iv) The module efficiency should not be less than 12 %.
- (v) The terminal box on the module should have a provision for opening it for replacing the cable, if required.
- (vi) There should be a Name Plate fixed inside the module which will give:
 - a. Name of the Manufacturer or Distinctive Logo.
 - b. Model Number
 - c. Serial Number
 - d. Year of manufacture
- (viii) A distinctive serial number starting with NSM will be engraved on the frame of the module or screen printed on the tedlar sheet of the module.

BATTERY

- i. Lead Acid, tubular positive plate flooded electrolyte or Gel / VRLA Type.
- ii. The battery will have a minimum rating of 12V, 100 Ah at C/10 discharge rate.
- iii. 75 % of the rated capacity of the battery should be between fully charged and load cut off conditions.
- iv. Battery should conform to the latest BIS/ International standards.


LIGHT SOURCE

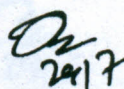
- i. The light source will be a white LED type.
- ii. The colour temperature of white LED used in the system should be in the range of 5500 \pm K–6500 \pm K.
- iii. W-LEDs should not emit ultraviolet light.
- iv. The light output from the white LED light source should be constant throughout the duty cycle.
- v. The lamps should be housed in an assembly suitable for outdoor use.

ELECTRONICS

- i. The total electronic efficiency should be at least 85%.
- ii. Electronics should operate at 12 V and should have temperature compensation for proper charging of the battery throughout the year.



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 Ray

- iii. The PV module itself should be used to sense the ambient light level for switching ON and OFF the lamp.
- iv. The PCB containing the electronics should be capable of solder free installation and replacement.
- v. Necessary lengths of wires/cables, switches suitable for DC use and fuses should be provided.

ELECTRONIC PROTECTIONS

- i. Adequate protection is to be incorporated under "No Load" conditions e.g. when the lamp is removed and the system is switched ON.
- ii. The system should have protection against battery overcharge and deep discharge conditions.
- iii. Fuse should be provided to protect against short circuit conditions.
- iv. Protection for reverse flow of current through the PV module(s) should be provided.
- v. Electronics should have temperature compensation for proper charging of the battery throughout the year.
- vi. Adequate protection should be provided against battery reverse polarity.
- vii. Load reconnect should be provided at 80% of the battery capacity status.

MECHANICAL COMPONENTS

- i. A corrosion resistant metallic frame structure should be fixed on the pole to hold the SPV module.
- ii. The frame structure should have provision to adjust its angle of inclination to the horizontal, so that it can be installed at the specified tilt angle.
- iii. The pole should be made of Galvanised Iron (GI) pipe.
- iv. The height of the pole should be 4 metres above the ground level, after grouting and final installation.
- v. The pole should have the provision to hold the luminaire.
- vi. The lamp housing should be water proof and should be painted with a corrosion resistant paint.
- vii. A vented, acid proof and corrosion resistant metallic box with a locking arrangement for outdoor use should be provided for housing the battery.

INDICATORS

- The system should have two indicators of two distinct colour.
- The first indicator should indicate the charging under progress and should glow only when the charging is taking place. It should stop glowing when the battery is fully charged.
- Second indicator should indicate the battery "Load Cut Off" condition.


QUALITY AND WARRANTY

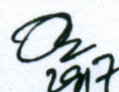
- i. The street lighting system (including the battery) will be warranted for a period of five years from the date of supply.
- ii. The PV module(s) will be warranted for a minimum period of 25 years from the date of supply. The PV modules must be warranted for their output peak watt capacity, which should not be less than 90% at the end of Ten (10) years and 80% at the end of Twenty five (25) years.
- iii. The Warranty Card to be supplied with the system must contain the details of the system.

OPERATION and MAINTENANCE MANUAL

- An Operation, Instruction and Maintenance Manual, in English and the local language, should be provided with the Solar Street Lighting System. The following minimum details must be provided in the Manual:
- Basic principles of Photovoltaics.



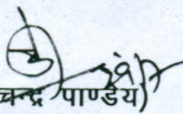
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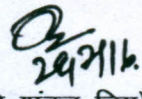
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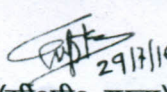
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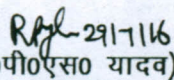
- A small write-up (with a block diagram) on Solar Street Lighting System - its components, PV module, battery, electronics and luminaire and expected performance.
- Type, Model number, Voltage & capacity of the battery, used in the system.
- The make, model number, country of origin and technical characteristics (including IESNA LM-80 report) of W-LEDs used in the lighting system.
- About Charging and Significance of indicators.
- Clear instructions about erection of pole and mounting of PV module (s) and lamp housing assembly on the pole.
- Clear instructions on regular maintenance and trouble shooting of the Solar Street Lighting System.
- DO's and DONT's.
- Name and address of the contact person for repair and maintenance, in case of non-functionality of the solar street lighting system.

Note:- The technical specification specified above or not specified but is a standard design of a manufacturer shall be taken into consideration but it should strictly comply with the technical norms as established by ISO/ MNRE.


(मोहन चन्द्र पाण्डेय)
सदस्य
सहायक सेनानायक,
35वीं वाहिनी पीएसी,
लखनऊ।


(रवि शंकर निम)
सदस्य,
उप सेनानायक,
32वीं वाहिनी पीएसी,
लखनऊ।


(सी०पी० गुप्ता)
तकनीकी विशेषज्ञ,
अधीक्षण अभियन्ता,
लो०नि०वि०,
लखनऊ।


(आर०पी०एस० यादव)
अध्यक्ष,
सेनानायक,
32वीं वाहिनी पीएसी,
लखनऊ।