

## अनुबंध | Contract



अनुबंध क्रमांक | Contract No: GEMC-511687730830412

अनुबंध तिथि | Generated Date : 09-Apr-2025

बोली/आरए/पीबीपी संख्या | Bid/RA/PBP No.: [GEM/2024/B/5393912](#)

अनुसूची नाम | Schedule Name: Schedule 2, Schedule 1, Schedule 3

संगठन विवरण   Organisation Details	खरीदार विवरण   Buyer Details
प्ररूप   Type : Central PSU मंत्रालय   Ministry : Ministry of Coal विभाग   Department : COAL INDIA LIMITED संगठन का नाम   Organisation Name : Mahanadi Coalfields Limited कार्यालय क्षेत्र   Office Zone : MCL Sambalpur Odisha	पद   Designation : Deputy Manager संपर्क नंबर   Contact No. : -9437568790- ईमेल आईडी   Email ID : mmpur1c.mcl@coalindia.in जीएसटीआईएन   GSTIN : - पता   Address : MAHANADI COALFIELDS LIMITED, PO - JAGRUTI VIHAR, BURLA, SAMBALPUR, ODISHA-768020, India

वित्तीय स्वीकृति विवरण   Financial Approval Detail	भुगतान प्राधिकरण विवरण   Paying Authority Details
आईएफडी सहमति   IFD Concurrence : No प्रशासनिक अनुमोदन का पदनाम   Designation of Administrative Approval : GM(MM)/HOD वित्तीय अनुमोदन का पदनाम   Designation of Financial Approval : Mgr(finance)	Role: PAO भुगतान का तरीका   Payment Mode: Offline पद   Designation : DEEPAK KUMAR BURMA MGR FIN ईमेल आईडी   Email ID : dkburma@coalindia.in जीएसटीआईएन   GSTIN : 21AABCM5188P1Z3 पता   Address : MAHANADI COALFIELDS LIMITED, AT /PO - JAGRUTI VIHAR, BURLA, SAMBALPUR, ODISHA-768020, India

विक्रेता विवरण   Seller Details
जेम विक्रेता आईडी   GeM Seller ID : 6999180000123415 कंपनी का नाम   Company Name : SHRI GEE ENTERPRISES संपर्क नंबर   Contact No. : 09811130585 ईमेल आईडी   Email ID : TRAFCOPELE@GMAIL.COM पता   Address : 139,DASNA GATE SUKHIMAL, GHAZIABAD, UTTAR PRADESH-201001, - एमएसएमई पंजीकरण संख्या   MSME Registration number : UDYAM-UP-29-0021521 जीएसटीआईएन   GSTIN : 09AUSPS2096L1ZL (R), (M), (M) एमएसई सामाजिक श्रेणी   MSE Social Category : General एमएसई लिंग श्रेणी   MSE Gender : Male

\*जिसके नाम के पक्ष में GST/TAX इनवॉइस पेश किया जाएगा | GST / Tax invoice to be raised in the name of - Consignee

वितरण निर्देश | Delivery Instructions : NA

उत्पाद विवरण   Product Details						
#	आइटम विवरण   Item Description	आइटम विवरण   Ordered Quantity	इकाई   Unit	इकाई मूल्य (INR)   Unit Price (INR)	कर विभाजन (INR)   Tax Bifurcation (INR)	मूल्य (INR में सभी शुल्क और कर सहित)   Price (Inclusive of all Duties and Taxes in INR)
1	उत्पाद का नाम   Product Name : Trafco 20 meters High Mast Lighting Tower for large area with LED Flood Lighting System with 12 LED FLOOD LIGHT LUMINAIRES ब्रांड   Brand : Trafco ब्रांड प्रकार   Brand Type : Registered Brand कैटलॉग की स्थिति   Catalogue Status: Catalogue not verified by OEM कैसे बेचा जा रहा है   Selling As : Reseller not verified by OEM श्रेणी का नाम और चतुर्थांश   Category Name & Quadrant : High Mast Lighting Tower for large area with LED Flood Lighting System (Q3) मॉडल   Model: TRHM-20 एचएसएन कोड   HSN Code: HSN not specified by seller	42	pieces	245,000	NA	10,290,000
2	उत्पाद का नाम   Product Name : Trafco 16 meters High Mast Lighting Tower for large area with LED Flood Lighting System with 12 LED FLOOD LIGHT LUMINAIRES ब्रांड   Brand : Trafco ब्रांड प्रकार   Brand Type : Registered Brand कैटलॉग की स्थिति   Catalogue Status: Catalogue not verified by OEM कैसे बेचा जा रहा है   Selling As : Reseller not verified by OEM श्रेणी का नाम और चतुर्थांश   Category Name & Quadrant : High Mast Lighting Tower for large area with LED Flood Lighting System (Q3) मॉडल   Model: TRHM-16 एचएसएन कोड   HSN Code: HSN not specified by seller	15	pieces	228,542	NA	3,428,130

उत्पाद का नाम   Product Name : Trafco 16 meters High Mast Lighting Tower for large area with LED Flood Lighting System with 12 LED FLOOD LIGHT LUMINAIRES ब्रांड   Brand : Trafco ब्रांड प्रकार   Brand Type : Registered Brand कैटलॉग की स्थिति   Catalogue Status: Catalogue not verified by OEM कैसे बेचा जा रहा है   Selling As : Reseller not verified by OEM श्रेणी का नाम और चतुर्थांश   Category Name & Quadrant : High Mast Lighting Tower for large area with LED Flood Lighting System (Q3) मॉडल   Model: TRHM-16 एचएसएन कोड   HSN Code: HSN not specified by seller	6	pieces	242,028	NA	1,452,168
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कुल ऑर्डर मूल्य   Total Order Value (in INR)	15,170,298
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**परोक्षिती विवरण | Consignee Detail**

क्र.सं.   S.No	परोक्षिती   Consignee	वस्तु   Item	लॉट नंबर   Lot No.	मात्रा   Quantity	दिनांक के बाद डिलीवरी शुरू करना है   Delivery Start After	वितरण पूरा कब तक करना है   Delivery To Be Completed By
1	पद   Designation :- ईमेल आईडी   Email ID : depot-off-ibva.mcl@coalindia.in संपर्क   Contact : -9438493827- जीएसटीआईएन   GSTIN : 21AABCM5188P1Z3 पता   Address : Office of the General Manager, Ib-Valley Area, MCL, Brajrajnagar, Dist: Jharsuguda, ODISHA-768216, Jharsuguda, ODISHA-768216, India	Trafco 16 meters High Mast Lighting Tower for large area with LED Flood Lighting System with 12 LED FLOOD LIGHT LUMINAIRES	-	4	09-Apr-2025	22-Aug-2025
2	पद   Designation :- ईमेल आईडी   Email ID : depot-off-tala.mcl@coalindia.in संपर्क   Contact : -9437157276- जीएसटीआईएन   GSTIN : 21AABCM5188P1Z3 पता   Address : Office of the General Manager Talcher Area ATPO Dera Colliery Angul, Angul, ODISHA-759103, India	Trafco 20 meters High Mast Lighting Tower for large area with LED Flood Lighting System with 12 LED FLOOD LIGHT LUMINAIRES	-	7	09-Apr-2025	22-Aug-2025
3	पद   Designation :- ईमेल आईडी   Email ID : depot-off-jaga.mcl@coalindia.in संपर्क   Contact : 0094-38073316- जीएसटीआईएन   GSTIN : 21AABCM5188P1Z3 पता   Address : Office of the Depot Officer, Central/Regional Stores, Jagannath /Area, P.O. Balanda, ANGUL, ODISHA-759116, India	Trafco 16 meters High Mast Lighting Tower for large area with LED Flood Lighting System with 12 LED FLOOD LIGHT LUMINAIRES	-	11	09-Apr-2025	22-Aug-2025
		Trafco 16 meters High Mast Lighting Tower for large area with LED Flood Lighting System with 12 LED FLOOD LIGHT LUMINAIRES	-	6	09-Apr-2025	22-Aug-2025
4	पद   Designation :- ईमेल आईडी   Email ID : depot-off-hina.mcl@coalindia.in संपर्क   Contact : -877806859- जीएसटीआईएन   GSTIN : 21AABCM5188P1Z3 पता   Address : Office of the Depot Officer, Regional Stores, Hingula Area , AT/P.O/P.S – Gopal Prasad, Angul, ODISHA-759103, India	Trafco 20 meters High Mast Lighting Tower for large area with LED Flood Lighting System with 12 LED FLOOD LIGHT LUMINAIRES	-	35	09-Apr-2025	22-Aug-2025

**Product Specification for Trafco 20 meters High Mast Lighting Tower for large area with LED Flood Lighting System with 12 LED FLOOD LIGHT LUMINAIRES**

विनिर्देश   Specification	उप-विनिर्देश   Sub-Spec	मूल्य   Value
GENERIC	Height of High Mast Tower (in Meters)	20
	Installation and commissioning (Installation and commissioning work at multiple locations shall follow as per the guidelines of State/Central Govt rules and regulations as applicable)	Yes. Including civil work for mining sites (for mining sites all Electricals, winch mechanism, lamps control-gears, breakers, cables etc shall be suitable for 230 V (L-L), 50 Hz supply and with RCCB/ELCB based protection provided with suitable range to comply relevant CEA regulation 42
	Each pole shall be supply with suitable foundation bolts,nuts and washers, Instruction manuals	Yes
	Onsite warranty (in Years)	2
	Cross section of mast (no of sides)	20 sided polygon
	No of sections	3
	Effective length of each section (in m)	10

High mast System	Material construction: The mast shall be manufactured using special steel plates, conforming to	355 grade as per BSEN10 025
	Bottom diameter (in mm) - Minimum	540
	Top diameter (in mm) - Minimum	150
	Plate thickness for top (in mm) - Minimum	3
	Plate thickness for Middle (in mm) - Minimum	4
	Plate thickness for Bottom (in mm) - Minimum	5
	Length of overlap for Top (in mm) - Minimum	600
	Length of overlap for Bottom (in mm) - Minimum	800
	Type of joints	Stress fit
	No of longitudinal welds / section (in Nos)	2
	Metal protection treatment of fabricated mast section	Hot dip galvanised
	Thickness of galvanisation	Average: 86 Micron
	Provision for cable termination	MCB Isolator
	Diameter of base plate (in mm) - Minimum	740
	Thickness of base plate (in mm) - Minimum	30
	Lantern carriage shall be fabricated suitably and hot dip galvanized for fixing and holding required no of floodlight fixtures and their control gear boxes	Yes
	Test Report from Central Government lab/NABL/ILAC accredited lab and report shall furnish to buyer on demand	Yes
Lightning Finial	Heavy duty hot dip galvanized lightning finial shall be provided for each mast (in Nos)	1
	The lightning finial shall be provided at the center of the head frame (minimum length) in meters	1.2
	It shall be solidly bolted to the head frame to get a direct conducting path to the center of the earth through the mast	Yes
	The lightning finial shall not be provided on the lantern carriage under any circumstances in view of the safety of the system	Yes
Aviation Obstruction Lights	Aviation obstruction lights shall be provided on top of each mast (in Nos)	1
	Type	LED, Vertical stand
Earthing Terminals	Suitable length of earthing terminals shall be provided at a convenient location on the base of the mast, for lightning and electrical protection of the mast	Using 12 mm dia SS Bolts
Wind Load	Wind loadings as per	IS 875:1987 part 3 latest
	Gust Factor	1.15
	Maximum Wind load	47 m/sec
	The design Life of the mast shall be (in Years)	25
	The Test Report from Central Government lab/NABL/ILAC accredited lab and report shall furnish to buyer on demand	Yes
Door Opening	An adequate door opening shall be provided at the base of the mast and the opening shall be such that it permits clear access to equipment like winches, cables, etc and also facilitate easy removal of the winch	Yes
	Type of locking arrangement for door	Pad lock
	Size of opening and closing door at base compartment of high mast (in mm) - Minimum	1200 x 250
Lantern Carriage	A fabricated Lantern Carriage shall be provided for fixing and holding the flood light fitting and control gear boxes	Yes
	The Lantern Carriage shall be of steel tube construction, the tubes acting as conduits for wire, with holes fully protected by grommets	Yes
	The Lantern Carriage shall be so designed and fabricated to hold the required number of flood light fitting and control gear boxes, and also have a perfect self balance	Yes
	The Lantern Carriage shall be fabricated in two / three halves and joined by bolted flanges with steel nuts to enable easy installation or removal from the erected mast	Yes
	The entire lantern carriage shall be hot dip galvanized after fabrication	Yes

	The inner lining of the carriage shall be provided with protective PVC arrangement, so that no damage is caused to the surface of the mast during raising and lowering operation of the carriage	Yes
Junction Box	Weather proof junction box shall be provided on the Carriage Assembly as required, from which the inter-connections to the designed number of the flood light luminaries and associated control gears fixed on the carriages shall be made	Yes
	Ingress protection for Junction Box i.e. IP Class (as per IS/IEC:60529:2001 latest) Test Report from Central Government lab/NABL/ILAC accredited lab and report shall furnish to buyer on demand	IP 55
	Junction Box material	Mild Steel
	Cable connections from the top junction box to the individual luminaries and cable shall conforming to	IS: 694: 2010 latest
	No of core	3
	Cable category	FR-LSH
	Size of cable (in Sq mm)	1.5
	Conductor material shall be	Copper
Raising and lowering mechanism	For the installation and maintenance of the luminaries and lamps, it shall be necessary to lower and raise the Lantern Carriage Assembly	Yes
	To enable this, a suitable Winch Arrangement shall be provided, with the winch fixed at the base of the mast the specially designed head frame assembly at the top	Yes
Winch	The winch shall be of "Integral Power Tool" type with motor	Yes
	The winch shall have provision for manual operation in case of failure of the motor	Yes
	Minimum working load of winch (in Kg)	750
	Motor capacity - Minimum (in HP)	1.5
	Suitable rating and connecting copper cable also shall be provided for the motor	Yes
	The winch shall be type tested from a Central Govt Lab/NABL/ILAC accredited lab and the test certificate shall be furnished to buyer on demand. The test certificate shall include the maximum load operated by the winch	Yes
HEAD FRAME	The head frame is to be designed as a capping unit of the mast, shall be of welded steel construction, galvanized both internally and externally after assembly	Yes
	The top pulley shall be of appropriate diameter, large enough to accommodate the steel wire ropes and the multi-core electric cable	Yes
	The pulley block shall be made of non-corrodible material, and shall be of die-cast Aluminum Alloy (LM-6). Pulley made of synthetic materials such as plastic or PVC are not acceptable	Yes
	Self-lubricating bearings and steel shaft shall be provided to facilitate smooth and maintenance free operation for a long period	Yes
	The pulley assembly shall be fully protected by a canopy galvanized internally and externally. The head frame shall be provided with guides and stops with PVC buffer for docking the lantern carriage	Yes
Stainless Steel Wire Rope	The suspension system shall essentially be without any intermediate joint. The steel wire ropes shall be of suitable construction, the central core being of the same	Yes
	The overall diameter of the rope	>/=6 mm
	The breaking load of each rope shall be at full load as per the relevant standard	>/=2400 Kg
	Grade / construction	AISI 316, 7/19 construction
	Number of ropes	2
	Torque- limiting device with load adjustment facility to protect the wire ropes	Yes
	A suitable terminal box shall be provided as part of the supply at the base compartment of the high mast for terminating the incoming cable	Yes
	At the top there shall be weather proof junction box to terminate the trailing cable	Yes
	The system shall have in - built facilities for testing the luminaires while in lowered position	Yes

Electrical System, Cable and Cable Connections	<del>Electric cables shall used in the high mast system shall be</del>	ISI Marked
	The trailing cable (from base compartment to top of the mast system junction box) conforming to	IS:7098 (Part 1):1988 latest
	No. of cores	3
	Size of cable (in Sq.mm)	2.5
	Cable shall be	Armoured
	Conductor material shall be	Copper
	Cable Category	C1
Incoming power cable from feeder panel to base compartment of mast and cable shall conforming to	IS:7098 (Part 1):1988 latest	
Feeder pillar Panel	Feeder pillar panel for each mast	Yes
	Feeder panel shall be suitable for	415 V, 3 phase, 4 wire, 50 Hz, AC
	The control panels shall be	Stand mounted
	Ingress protection for feeder pillar panel i.e IP Class (as per IS/IEC:60529:2001 latest).Test Report shall furnish from Central Government lab/NABL/ILAC accredited lab to buyer on demand	IP 65
	It shall be fabricated out of	14 SWG CRCA sheet steel
	Thickness of sheet (in mm)	2
	The panels shall be given pre-treatment and powder coated and color shall be	Grey
	The stand shall be painted in	Black color
	Cable entry shall be at the	Bottom
	The panels shall have	knock outs of the required cable
	Laminated circuit diagram shall be pasted	inside of the door
	Feeder pillar shall have pad locking arrangement	Yes
	Earth terminal	12 mm dia. Bolts
	Panel shall have a sloping cover to avoid accumulation of dust	Yes
	Panel shall be provided with incoming & outgoing MCCB / MCB of appropriate rating and in desired quantity depending on total no of circuits in use	yes
	Timer for automatic ON & OFF of lights with pilot lamps shall be provided	Yes
	Toggle Switch for AUTO/OFF/MANUAL mode	Yes
	Bus bars material	Yes. Copper
	Cables used in the high mast system shall be	ISI Marked
	The incoming power cable (from feeder panel to base compartment) conforming to	IS:7098 (Part 1):1988 latest
	No of Cores	3
	Size of cable (in Sq.mm)	1.5
	Cable Shall be	Armoured
The conductor material shall be	Copper	
cable category	C1	
	No. of Luminaires for each high mast lighting tower (in Nos)	12
	LED Luminaire conformity to IS:10322/Part5/Section5/2012latest and IS: 16107 (Part 2/Sec 1):2012 latest	Yes
	Photo biological safety of LEDs used shall be as per IS:16108/2012 (exempt group)	Yes
	Types of LED Luminaire as per the IS: 16107(Part-2/ Sec-1)/2012	Type B
	Types of LED Modules as per the IS: 16103(Part-2)/2012	Type 3
	LED Rating/System Wattage/Rated Power for each luminaire	400W
	Luminaire System Efficacy (Lumen/watt)	>/= 100 Lm/Watt
	Ingress Protection (IP Rating) as per IS:10322 (Part 1):1982 latest	IP66
	Mounting brackets (included)	Adjustable
	Input operating Voltage range and frequency	90 to 300 Volts AC at 50Hz+/-2Hz
	Automatic Higher Cut off voltage above 300 volt	Yes

LED FLOOD LIGHT  
LUMINAIRE

Rated voltage	230 V AC 50 Hz
AC Power Factor at full load	$\geq 0.95$
Driver Efficiency (in %age)	$\geq 85$
Total Harmonics Distortion (in %age)	$\leq 10$
The total circuit power shall not be more than 110 percent of the value declared by the manufacturer"	Yes
LED chip Efficacy	$\geq 130$ Lm/Watt
Colour temperature	6000K (+/- 500K)
Working life for LED (Minimum 50,000 burning hours as per LM-80 report)	Yes
Colour Rendering Index(CRI)	$\geq 70$
Beam Angle	$\geq 120$
Optic lense material (UV stabilised) (Write NA for without optic lense supply)	Poly carbonate lense
Heat sink should be die-cast aluminium along with sufficient heat sink fins to dissipate heat effectively	Yes
Capacitor shall be rated for a temperature of 105 deg celsius or better	Yes
Junction temperature	$< 85$ degC
Operating temperature range	-10 deg C to +50 deg C
Operating Humidity Range	10 % to 95 % RH
Short circuit Protection	Yes
Over load protecton	Yes
Over Voltage protection	Yes
Reverse polarity	Yes
High voltage test (1.5 KV for one minute between supply terminals and body of the unit)	Yes
Insulation resistance between earth and current carrying part	$>100$ M ohm
The luminaire shall be protected against surges and transients( Internal)	$>/=5KV$
The luminaire shall be protected against surges and transients of $>/=10KV$ (External)	Yes
The Luminaires casing/housing (single piece housing) shall be pressure die casted aluminium alloy with higher thermal conductivity	Yes
The luminaire body must be corrosion resistant epoxy powder coated	Yes
All fastners must be of stainless steel	Yes
The entire housing (both LED section and driver section) shall be dust and water proof protection as per IS:10322 (Part 1):1982latest	IP66
Extruded silicon loop gasket shall be provided in the lantern body to ensure a weather proof seal between the UV Glass cover and the metal housing to exclude the entry of the dust,water,insects etc	Yes
Luminaries light transparency should be of Toughened glass	Yes
Toughned transparent glass cover thickness	$>/=4$ mm
Toughned Glass shall not get discoloured, shall not suffer degration due to heat and ageing within warranty period	Yes
Number of electronic control gear per luminaire (power supplies)	1 No.
Driver components shall be industrial grade or above	Yes
PCB shall be FR4 grade minimum 0.8 to 1.0 mm thick or more	Yes
The Luminaires works on single phase three wires system (Phase, Neutral and Earth)	Yes
Suitable connector shall be provided for LED connection between driver output and LED	Yes
Length of ISI marked three core wire (shall be provided along with supply of material)	50 cm
Light Source	SMD LED Chip as per LM80/IS16106
Manufactures Name and and brand on the aluminium die cast body	Engraved / Embossed
Manufacturer's name, model number, serial number	Yes

	Date of manufacture (month-year), and lot number as identification mark in side each unit and the out side of each packaging box	Yes
	The operation characteristics voltage and power be marked inside of each LED luminaire unit	Yes
	LED Make	OSRAM / NICHIA/CREE/SAMSUNG / SEOUL / LUMILED / PHILIPS/ EDISON/
CERTIFICATIONS	System must have EMI/EMC compliance as applicable (Test reports shall be furnish on demand by buyer/consignee)	Yes
	LM 79 (Photometry) (Ref IS:16106:2012) report from Central Government lab/NABL/ILAC accredited lab Reports shall be furnish on demand by buyer (LM-79 report shall have total lumen output, power, PF, Current in Amps, CRI & CCT etc	Yes
	LM 80 & TM 21 (Part of LM 80) (Ref IS:16105:2012) Reports and Photo biological report for LED report from Central Government lab /NABL/ILAC accredited lab Reports shall be furnish on demand by buyer (LM-80 report shall have and the Pohoto Biological report of the LED Chip being used in the luminaire)	Yes
	Availability of test Report from Central Government lab/NABL/ILAC accredited lab to Indian Standrad IS:10322/part5/sec-5/2012andIS16107 (Part 2/Sec 1):2012	Yes
	DC or AC supplied electronic control gear for LED Module shall comply as per IS:15885 (Part 2/Sec 13)	Yes
	LED Luminaire for Flood Light shall comply with Complusory Registration (CRS) of BIS for safety as per IS 10322 (Part5/Section5): 2012 as applicable on the date	Yes
	Marking: All the products shall have marking details as per relevant BIS standard	Yes
	Seller shall furish all the test reports and certificates as per the technical specification to the purchase authority on demand	Yes

**टिप्पणी | Note::** Seller has given an undertaking that it has made arrangements for getting the stores from an authorized distributor / dealer / channel partner of the OEM of the offered product. At the time of delivery of goods, Seller will provide necessary chain documents (in the form of GST Invoice) to prove that the supplied goods are genuine and are being sourced from an authorized distributor / dealer / channel partner of the OEM. In case of any complaint about genuineness of the supplied products, Seller shall be responsible for providing genuine replacement supplies.

**खरीदार परिभाषित अतिरिक्त विशिष्टता के लिए | Buyer Defined Additional Specification for Trafco 20 meters High Mast Lighting Tower for large area with LED Flood Lighting System with 12 LED FLOOD LIGHT LUMINAIRES**

विनिर्देश   Specification	मूल्य   Value
Additional Technical Parameters	Refer the attached document in buyer added ATC section.

**Product Specification for Trafco 16 meters High Mast Lighting Tower for large area with LED Flood Lighting System with 12 LED FLOOD LIGHT LUMINAIRES**

विनिर्देश   Specification	उप-विनिर्देश   Sub-Spec	मूल्य   Value
GENERIC	Height of High Mast Tower (in Meters)	16
	Installation and commissioning (Installation and commissioning work at multiple locations shall follow as per the guidelines of State/Central Govt rules and regulations as applicable)	Yes. Including civil work for mining sites (for mining sites all Electricals, winch mechanism, lamps control-gears, breakers, cables etc shall be suitable for 230 V (L-L), 50 Hz supply and with RCCB/ELCB based protection provided with suitable range to comply relevant CEA regulation 42
	Each pole shall be supply with suitable foundation bolts,nuts and washers, Instruction manuals	Yes
	Onsite warranty (in Years)	2
	Cross section of mast (no of sides)	20 sided polygon
	No of sections	2
	Effective length of each section (in m)	10
	Material construction: The mast shall be manufactured using special steel plates, conforming to	355 gradeasper BSEN10 025
	Bottom diameter (in mm) - Minimum	540
	Top diameter (in mm) - Minimum	150

High mast System	Plate thickness for top (in mm) - Minimum	3
	Plate thickness for Middle (in mm) - Minimum	4
	Plate thickness for Bottom (in mm) - Minimum	5
	Length of overlap for Top (in mm) - Minimum	600
	Length of overlap for Bottom (in mm) - Minimum	800
	Type of joints	Stress fit
	No of longitudinal welds / section (in Nos)	1
	Metal protection treatment of fabricated mast section	Hot dip galvanised
	Thickness of galvanisation	Average: 86 Micron
	Provision for cable termination	MCB Isolator
	Diameter of base plate (in mm) - Minimum	740
	Thickness of base plate (in mm) - Minimum	25
	Lantern carriage shall be fabricated suitably and hot dip galvanized for fixing and holding required no of floodlight fixtures and their control gear boxes	Yes
	Test Report from Central Government lab/NABL/ILAC accredited lab and report shall furnish to buyer on demand	Yes
Lightning Finial	Heavy duty hot dip galvanized lightning finial shall be provided for each mast (in Nos)	1
	The lightning finial shall be provided at the center of the head frame (minimum length) in meters	1.2
	It shall be solidly bolted to the head frame to get a direct conducting path to the center of the earth through the mast	Yes
	The lightning finial shall not be provided on the lantern carriage under any circumstances in view of the safety of the system	Yes
Aviation Obstruction Lights	Aviation obstruction lights shall be provided on top of each mast(in Nos)	1
	Type	LED, Vertical stand
Earthing Terminals	Suitable length of earthing terminals shall be provided at a convenient location on the base of the mast, for lightning and electrical protection of the mast	Using 12 mm dia SS Bolts
Wind Load	Wind loadings as per	IS 875:1987 part 3 latest
	Gust Factor	1.15
	Maximum Wind load	50 m/sec
	The design Life of the mast shall be (in Years)	25
	The Test Report from Central Government lab/NABL/ILAC accredited lab and report shall furnish to buyer on demand	Yes
Door Opening	An adequate door opening shall be provided at the base of the mast and the opening shall be such that it permits clear access to equipment like winches, cables, etc and also facilitate easy removal of the winch	Yes
	Type of locking arrangement for door	Pad lock
	Size of opening and closing door at base compartment of high mast (in mm) - Minimum	1200 x 250
Lantern Carriage	A fabricated Lantern Carriage shall be provided for fixing and holding the flood light fitting and control gear boxes	Yes
	The Lantern Carriage shall be of steel tube construction, the tubes acting as conduits for wire, with holes fully protected by grommets	Yes
	The Lantern Carriage shall be so designed and fabricated to hold the required number of flood light fitting and control gear boxes, and also have a perfect self balance	Yes
	The Lantern Carriage shall be fabricated in two / three halves and joined by bolted flanges with steel nuts to enable easy installation or removal from the erected mast	Yes
	The entire lantern carriage shall be hot dip galvanized after fabrication	Yes
	The inner lining of the carriage shall be provided with protective PVC arrangement, so that no damage is caused to the surface of the mast during raising and lowering operation of the carriage	Yes
	Weather proof junction box shall be provided on the Carriage Assembly as required, from which the inter-connections to the designed number of the	Yes

Junction Box	flood light luminaries and associated control gears fixed on the carriages shall be made	
	Ingress protection for Junction Box i.e. IP Class (as per IS/IEC:60529:2001 latest) Test Report from Central Government lab/NABL/ILAC accredited lab and report shall furnish to buyer on demand	IP 65
	Junction Box material	Mild Steel
	Cable connections from the top junction box to the individual luminaries and cable shall conforming to	IS: 694: 2010 latest
	No of core	3
	Cable category	FR
	Size of cable (in Sq mm)	1.5
	Conductor material shall be	Copper
Raising and lowering mechanism	For the installation and maintenance of the luminaries and lamps, it shall be necessary to lower and raise the Lantern Carriage Assembly	Yes
	To enable this, a suitable Winch Arrangement shall be provided, with the winch fixed at the base of the mast the specially designed head frame assembly at the top	Yes
Winch	The winch shall be of "Integral Power Tool" type with motor	Yes
	The winch shall have provision for manual operation in case of failure of the motor	Yes
	Minimum working load of winch (in Kg)	750
	Motor capacity - Minimum (in HP)	1.5
	Suitable rating and connecting copper cable also shall be provided for the motor	Yes
	The winch shall be type tested from a Central Govt Lab/NABL/ILAC accredited lab and the test certificate shall be furnished to buyer on demand. The test certificate shall include the maximum load operated by the winch	Yes
HEAD FRAME	The head frame is to be designed as a capping unit of the mast, shall be of welded steel construction, galvanized both internally and externally after assembly	Yes
	The top pulley shall be of appropriate diameter, large enough to accommodate the steel wire ropes and the multi-core electric cable	Yes
	The pulley block shall be made of non-corrodible material, and shall be of die-cast Aluminum Alloy (LM-6). Pulley made of synthetic materials such as plastic or PVC are not acceptable	Yes
	Self-lubricating bearings and steel shaft shall be provided to facilitate smooth and maintenance free operation for a long period	Yes
	The pulley assembly shall be fully protected by a canopy galvanized internally and externally. The head frame shall be provided with guides and stops with PVC buffer for docking the lantern carriage	Yes
Stainless Steel Wire Rope	The suspension system shall essentially be without any intermediate joint. The steel wire ropes shall be of suitable construction, the central core being of the same	Yes
	The overall diameter of the rope	>/=6 mm
	The breaking load of each rope shall be at full load as per the relevant standard	>/=2400 Kg
	Grade / construction	AISI 316, 7/19 construction
	Number of ropes	2
	Torque- limiting device with load adjustment facility to protect the wire ropes	Yes
Electrical System, Cable and Cable Connections	A suitable terminal box shall be provided as part of the supply at the base compartment of the high mast for terminating the incoming cable	Yes
	At the top there shall be weather proof junction box to terminate the trailing cable	Yes
	The system shall have in - built facilities for testing the luminaires while in lowered position	Yes
	Electric cables shall used in the high mast system shall be	ISI Marked
	The trailing cable (from base compartment to top of the mast system junction box ) conforming to	IS:7098 (Part 1):1988 latest
	No. of cores	2

	Size of cable (in Sq mm)	2.5
	Cable shall be	Armoured
	Conductor material shall be	Copper
	Cable Category	C1
	Incoming power cable from feeder panel to base compartment of mast and cable shall conforming to	IS:7098 (Part 1):1988 latest
Feeder pillar Panel	Feeder pillar panel for each mast	Yes
	Feeder panel shall be suitable for	415 V, 3 phase, 4 wire, 50 Hz, AC
	The control panels shall be	Stand mounted
	Ingress protection for feeder pillar panel i.e IP Class (as per IS/IEC:60529:2001 latest). Test Report shall furnish from Central Government lab/NABL/ILAC accredited lab to buyer on demand	IP 55
	It shall be fabricated out of	14 SWG CRCA sheet steel
	Thickness of sheet (in mm)	2
	The panels shall be given pre-treatment and powder coated and color shall be	Grey
	The stand shall be painted in	Black color
	Cable entry shall be at the	Bottom
	The panels shall have	knock outs of the required cable
	Laminated circuit diagram shall be pasted	inside of the door
	Feeder pillar shall have pad locking arrangement	Yes
	Earth terminal	12 mm dia. Bolts
	Panel shall have a sloping cover to avoid accumulation of dust	Yes
	Panel shall be provided with incoming & outgoing MCCB / MCB of appropriate rating and in desired quantity depending on total no of circuits in use	yes
	Timer for automatic ON & OFF of lights with pilot lamps shall be provided	Yes
	Toggle Switch for AUTO/OFF/MANUAL mode	Yes
	Bus bars material	Yes. Copper
	Cables used in the high mast system shall be	ISI Marked
	The incoming power cable (from feeder panel to base compartment) conforming to	IS:7098 (Part 1):1988 latest
	No of Cores	2
	Size of cable (in Sq.mm)	2.5
	Cable Shall be	Armoured
	The conductor material shall be	Copper
cable category	C1	
No. of Luminaires for each high mast lighting tower (in Nos)	No. of Luminaires for each high mast lighting tower (in Nos)	12
	LED Luminaire conformity to IS:10322/Part5/Section5/2012latest and IS: 16107 (Part 2/Sec 1):2012 latest	Yes
	Photo biological safety of LEDs used shall be as per IS:16108/2012 (exempt group)	Yes
	Types of LED Luminaire as per the IS: 16107(Part-2/ Sec-1)/2012	Type B
	Types of LED Modules as per the IS: 16103(Part-2)/2012	Type 3
	LED Rating/System Wattage/Rated Power for each luminaire	400W
	Luminaire System Efficacy (Lumen/watt)	>= 100 Lm/Watt
	Ingress Protection (IP Rating) as per IS:10322 (Part 1):1982 latest	IP66
	Mounting brackets (included)	Adjustable
	Input operating Voltage range and frequency	90 to 300 Volts AC at 50Hz+/-2Hz
	Automatic Higher Cut off voltage above 300 volt	Yes
	Rated voltage	230 V AC 50 Hz
	AC Power Factor at full load	≥ 0.95
	Driver Efficiency (in %age)	≥85
	Total Harmonics Distortion (in %age)	≤ 10

LED FLOOD LIGHT  
LUMINAIRE

The total circuit power shall not be more than 110 percent of the value declared by the manufacturer"	Yes
LED chip Efficacy	≥130 Lm/Watt
Colour temperature	6000K (+/- 500K)
Working life for LED (Minimum 50,000 burning hours as per LM-80 report)	Yes
Colour Rendering Index(CRI)	≥70
Beam Angle	≥120
Optic lense material (UV stabilised) (Write NA for without optic lense supply)	Poly carbonate lense
Heat sink should be die-cast aluminium along with sufficient heat sink fins to dissipate heat effectively	Yes
Capacitor shall be rated for a temperature of 105 deg celsius or better	Yes
Junction temperature	< 85 degC
Operating temperature range	-10 deg C to +50 deg C
Operating Humidity Range	10 % to 95 % RH
Short circuit Protection	Yes
Over load protecton	Yes
Over Voltage protection	Yes
Reverse polarity	Yes
High voltage test (1.5 KV for one minute between supply terminals and body of the unit)	Yes
Insulation resistance between earth and current carrying part	>100 M ohm
The luminaire shall be protected against surges and transients( Internal)	>/=5KV
The luminaire shall be protected against surges and transients of >/=10KV (External)	Yes
The Luminaires casing/housing (single piece housing) shall be pressure die casted aluminium alloy with higher thermal conductivity	Yes
The luminaire body must be corrosion resistant epoxy powder coated	Yes
All fastners must be of stainless steel	Yes
The entire housing (both LED section and driver section) shall be dust and water proof protection as per IS:10322 (Part 1):1982latest	IP66
Extruded silicon loop gasket shall be provided in the lantern body to ensure a weather proof seal between the UV Glass cover and the metal housing to exclude the entry of the dust,water,insects etc	Yes
Luminaries light transparency should be of Toughened glass	Yes
Toughned transparent glass cover thickness	>/=4 mm
Toughned Glass shall not get discoloured, shall not suffer degration due to heat and ageing within warranty period	Yes
Number of electronic control gear per luminaire (power supplies)	1 No.
Driver components shall be industrial grade or above	Yes
PCB shall be FR4 grade minimum 0.8 to 1.0 mm thick or more	Yes
The Luminaires works on single phase three wires system (Phase, Neutral and Earth)	Yes
Suitable connector shall be provided for LED connection between driver output and LED	Yes
Length of ISI marked three core wire (shall be provided along with supply of material)	50 cm
Light Source	SMD LED Chip as per LM80/IS16106
Manufactures Name and and brand on the aluminium die cast body	Engraved / Embossed
Manufacturer's name, model number, serial number	Yes
Date of manufacture (month-year), and lot number as identification mark in side each unit and the out side of each packaging box	Yes
The operation characteristics voltage and power be marked inside of each LED luminaire unit	Yes
LED Make	OSRAM / NICHIA/CREE/SAMSUNG / SEOUL / LUMILED / PHILIPS/

		EDISON/
CERTIFICATIONS	System must have EMI/EMC compliance as applicable (Test reports shall be furnish on demand by buyer/consignee)	Yes
	LM 79 (Photometry) (Ref IS:16106:2012) report from Central Government lab/NABL/ILAC accredited lab Reports shall be furnish on demand by buyer (LM-79 report shall have total lumen output, power, PF, Current in Amps, CRI & CCT etc	Yes
	LM 80 & TM 21 (Part of LM 80) (Ref IS:16105:2012) Reports and Photo biological report for LED report from Central Government lab /NABL/ILAC accredited lab Reports shall be furnish on demand by buyer (LM-80 report shall have and the Pohoto Biological report of the LED Chip being used in the luminaire)	Yes
	Availability of test Report from Central Government lab/NABL/ILAC accredited lab to Indian Standrad IS:10322/part5/sec-5/2012andIS16107 (Part 2/Sec 1):2012	Yes
	DC or AC supplied electronic control gear for LED Module shall comply as per IS:15885 (Part 2/Sec 13)	Yes
	LED Luminaire for Flood Light shall comply with Complusory Registration (CRS) of BIS for safety as per IS 10322 (Part5/Section5): 2012 as applicable on the date	Yes
	Marking: All the products shall have marking details as per relevant BIS standard	Yes
	Seller shall furish all the test reports and certificates as per the technical specification to the purchase aughtority on demand	Yes

**टिप्पणी | Note:** Seller has given an undertaking that it has made arrangements for getting the stores from an authorized distributor / dealer / channel partner of the OEM of the offered product. At the time of delivery of goods, Seller will provide necessary chain documents (in the form of GST Invoice) to prove that the supplied goods are genuine and are being sourced from an authorized distributor / dealer / channel partner of the OEM. In case of any complaint about genuineness of the supplied products, Seller shall be responsible for providing genuine replacement supplies.

**खरीदार परिभाषित अतिरिक्त विशेषता के लिए | Buyer Defined Additional Specification for Trafco 16 meters High Mast Lighting Tower for large area with LED Flood Lighting System with 12 LED FLOOD LIGHT LUMINAIRES**

विनिर्देश   Specification	मूल्य   Value
Additional Technical Parameters	Refer the attached document in buyer added ATC section.

**Product Specification for Trafco 16 meters High Mast Lighting Tower for large area with LED Flood Lighting System with 12 LED FLOOD LIGHT LUMINAIRES**

विनिर्देश   Specification	उप-विनिर्देश   Sub-Spec	मूल्य   Value
GENERIC	Height of High Mast Tower (in Meters)	16
	Installation and commissioning (Installation and commissioning work at multiple locations shall follow as per the guidelines of State/Central Govt rules and regulations as applicable)	Yes. Including civil work for mining sites (for mining sites all Electricals, winch mechanism, lamps control-gears, breakers, cables etc shall be suitable for 230 V (L-L), 50 Hz supply and with RCCB/ELCB based protection provided with suitable range to comply relevant CEA regulation 42
	Each pole shall be supply with suitable foundation bolts,nuts and washers, Instruction manuals	Yes
	Onsite warranty (in Years)	2
	Cross section of mast (no of sides)	20 sided polygon
	No of sections	2
	Effective length of each section (in m)	10
	Material construction: The mast shall be manufactured using special steel plates, conforming to	355 gradeasper BSEN10 025
	Bottom diameter (in mm) - Minimum	540
	Top diameter (in mm) - Minimum	150
	Plate thickness for top (in mm) - Minimum	3
	Plate thickness for Middle (in mm) - Minimum	4
	Plate thickness for Bottom (in mm) - Minimum	5
Length of overlap for Top (in mm) - Minimum	600	

High mast System	Length of overlap for Bottom (in mm) - Minimum	800
	Type of joints	Stress fit
	No of longitudinal welds / section (in Nos)	1
	Metal protection treatment of fabricated mast section	Hot dip galvanised
	Thickness of galvanisation	Average: 86 Micron
	Provision for cable termination	MCB Isolator
	Diameter of base plate (in mm) - Minimum	740
	Thickness of base plate (in mm) - Minimum	25
	Lantern carriage shall be fabricated suitably and hot dip galvanized for fixing and holding required no of floodlight fixtures and their control gear boxes	Yes
	Test Report from Central Government lab/NABL/ILAC accredited lab and report shall furnish to buyer on demand	Yes
Lightning Finial	Heavy duty hot dip galvanized lightning finial shall be provided for each mast (in Nos)	1
	The lightning finial shall be provided at the center of the head frame (minimum length) in meters	1.2
	It shall be solidly bolted to the head frame to get a direct conducting path to the center of the earth through the mast	Yes
	The lightning finial shall not be provided on the lantern carriage under any circumstances in view of the safety of the system	Yes
Aviation Obstruction Lights	Aviation obstruction lights shall be provided on top of each mast(in Nos)	1
	Type	LED, Vertical stand
Earthing Terminals	Suitable length of earthing terminals shall be provided at a convenient location on the base of the mast, for lightning and electrical protection of the mast	Using 12 mm dia SS Bolts
Wind Load	Wind loadings as per	IS 875:1987 part 3 latest
	Gust Factor	1.15
	Maximum Wind load	50 m/sec
	The design Life of the mast shall be (in Years)	25
	The Test Report from Central Government lab/NABL/ILAC accredited lab and report shall furnish to buyer on demand	Yes
Door Opening	An adequate door opening shall be provided at the base of the mast and the opening shall be such t it permits clear access to equipment like winches, cables, etc and also facilitate easy removal of the winch	Yes
	Type of locking arrangement for door	Pad lock
	Size of opening and closing door at base compartment of high mast (in mm) - Minimum	1200 x 250
Lantern Carriage	A fabricated Lantern Carriage shall be provided for fixing and holding the flood light fitting and control gear boxes	Yes
	The Lantern Carriage shall be of steel tube construction, the tubes acting as conduits for wire, with holes fully protected by grommets	Yes
	The Lantern Carriage shall be so designed and fabricated to hold the required number of flood light fitting and control gear boxes, and also have a perfect self balance	Yes
	The Lantern Carriage shall be fabricated in two / three halves and joined by bolted flanges with steel nuts to enable easy installation or removal from the erected mast	Yes
	The entire lantern carriage shall be hot dip galvanized after fabrication	Yes
	The inner lining of the carriage shall be provided with protective PVC arrangement, so that no damage is caused to the surface of the mast during raising and lowering operation of the carriage	Yes
	Weather proof junction box shall be provided on the Carriage Assembly as required, from which the inter-connections to the designed number of the flood light luminaries and associated control gears fixed on the carriages shall be made	Yes
	Ingress protection for Junction Box i.e. IP Class (as per IS/IEC:60529:2001 latest) Test Report from Central Government lab/NABL/ILAC accredited lab and report shall furnish to buyer on demand	IP 65
	Junction Box material	Mild Steel

Junction Box	Cable connections from the top junction box to the individual luminaries and cable shall conforming to	IS: 694: 2010 latest
	No of core	3
	Cable category	FR
	Size of cable (in Sq mm)	1.5
	Conductor material shall be	Copper
Raising and lowering mechanism	For the installation and maintenance of the luminaries and lamps, it shall be necessary to lower and raise the Lantern Carriage Assembly	Yes
	To enable this, a suitable Winch Arrangement shall be provided, with the winch fixed at the base of the mast the specially designed head frame assembly at the top	Yes
Winch	The winch shall be of "Integral Power Tool" type with motor	Yes
	The winch shall have provision for manual operation in case of failure of the motor	Yes
	Minimum working load of winch (in Kg)	750
	Motor capacity - Minimum (in HP)	1.5
	Suitable rating and connecting copper cable also shall be provided for the motor	Yes
	The winch shall be type tested from a Central Govt Lab/NABL/ILAC accredited lab and the test certificate shall be furnished to buyer on demand. The test certificate shall include the maximum load operated by the winch	Yes
HEAD FRAME	The head frame is to be designed as a capping unit of the mast, shall be of welded steel construction, galvanized both internally and externally after assembly	Yes
	The top pulley shall be of appropriate diameter, large enough to accommodate the steel wire ropes and the multi-core electric cable	Yes
	The pulley block shall be made of non-corrodible material, and shall be of die-cast Aluminum Alloy (LM-6). Pulley made of synthetic materials such as plastic or PVC are not acceptable	Yes
	Self-lubricating bearings and steel shaft shall be provided to facilitate smooth and maintenance free operation for a long period	Yes
	The pulley assembly shall be fully protected by a canopy galvanized internally and externally. The head frame shall be provided with guides and stops with PVC buffer for docking the lantern carriage	Yes
Stainless Steel Wire Rope	The suspension system shall essentially be without any intermediate joint. The steel wire ropes shall be of suitable construction, the central core being of the same	Yes
	The overall diameter of the rope	>/=6 mm
	The breaking load of each rope shall be at full load as per the relevant standard	>/=2400 Kg
	Grade / construction	AISI 316, 7/19 construction
	Number of ropes	2
	Torque- limiting device with load adjustment facility to protect the wire ropes	Yes
Electrical System, Cable and Cable Connections	A suitable terminal box shall be provided as part of the supply at the base compartment of the high mast for terminating the incoming cable	Yes
	At the top there shall be weather proof junction box to terminate the trailing cable	Yes
	The system shall have in - built facilities for testing the luminaires while in lowered position	Yes
	Electric cables shall used in the high mast system shall be	ISI Marked
	The trailing cable (from base compartment to top of the mast system junction box ) conforming to	IS:7098 (Part 1):1988 latest
	No. of cores	2
	Size of cable (in Sq.mm)	2.5
	Cable shall be	Armoured
	Conductor material shall be	Copper
	Cable Category	C1

	Incoming power cable from feeder panel to base compartment of mast and cable shall conforming to	IS:7098 (Part 1):1988 latest
Feeder pillar Panel	Feeder pillar panel for each mast	Yes
	Feeder panel shall be suitable for	415 V, 3 phase, 4 wire, 50 Hz, AC
	The control panels shall be	Stand mounted
	Ingress protection for feeder pillar panel i.e IP Class (as per IS/IEC:60529:2001 latest).Test Report shall furnish from Central Government lab/NABL/ILAC accredited lab to buyer on demand	IP 55
	It shall be fabricated out of	14 SWG CRCA sheet steel
	Thickness of sheet (in mm)	2
	The panels shall be given pre-treatment and powder coated and color shall be	Grey
	The stand shall be painted in	Black color
	Cable entry shall be at the	Bottom
	The panels shall have	knock outs of the required cable
	Laminated circuit diagram shall be pasted	inside of the door
	Feeder pillar shall have pad locking arrangement	Yes
	Earth terminal	12 mm dia. Bolts
	Panel shall have a sloping cover to avoid accumulation of dust	Yes
	Panel shall be provided with incoming & outgoing MCCB / MCB of appropriate rating and in desired quantity depending on total no of circuits in use	yes
	Timer for automatic ON & OFF of lights with pilot lamps shall be provided	Yes
	Toggle Switch for AUTO/OFF/MANUAL mode	Yes
	Bus bars material	Yes. Copper
	Cables used in the high mast system shall be	ISI Marked
	The incoming power cable (from feeder panel to base compartment) conforming to	IS:7098 (Part 1):1988 latest
	No of Cores	2
	Size of cable (in Sq.mm)	2.5
	Cable Shall be	Armoured
The conductor material shall be	Copper	
cable category	C1	
	No. of Luminaires for each high mast lighting tower (in Nos)	12
	LED Luminaire conformity to IS:10322/Part5/Section5/2012latest and IS: 16107 (Part 2/Sec 1):2012 latest	Yes
	Photo biological safety of LEDs used shall be as per IS:16108/2012 (exempt group)	Yes
	Types of LED Luminaire as per the IS: 16107(Part-2/ Sec-1)/2012	Type B
	Types of LED Modules as per the IS: 16103(Part-2)/2012	Type 3
	LED Rating/System Wattage/Rated Power for each luminaire	400W
	Luminaire System Efficacy (Lumen/watt)	>= 100 Lm/Watt
	Ingress Protection (IP Rating) as per IS:10322 (Part 1):1982 latest	IP66
	Mounting brackets (included)	Adjustable
	Input operating Voltage range and frequency	90 to 300 Volts AC at 50Hz+/-2Hz
	Automatic Higher Cut off voltage above 300 volt	Yes
	Rated voltage	230 V AC 50 Hz
	AC Power Factor at full load	≥ 0.95
	Driver Efficiency (in %age)	≥85
	Total Harmonics Distortion (in %age)	≤ 10
	The total circuit power shall not be more than 110 percent of the value declared by the manufacturer"	Yes
	LED chip Efficacy	≥ 130 Lm/Watt
	Colour temperature	6000K (+/- 500K)

LED FLOOD LIGHT  
LUMINAIRE

Working life for LED (Minimum 50,000 burning hours as per LM-80 report)	Yes
Colour Rendering Index(CRI)	$\geq 70$
Beam Angle	$\geq 120$
Optic lens material (UV stabilised) (Write NA for without optic lens supply)	Poly carbonate lens
Heat sink should be die-cast aluminium along with sufficient heat sink fins to dissipate heat effectively	Yes
Capacitor shall be rated for a temperature of 105 deg celsius or better	Yes
Junction temperature	< 85 degC
Operating temperature range	-10 deg C to +50 deg C
Operating Humidity Range	10 % to 95 % RH
Short circuit Protection	Yes
Over load protecton	Yes
Over Voltage protection	Yes
Reverse polarity	Yes
High voltage test (1.5 KV for one minute between supply terminals and body of the unit)	Yes
Insulation resistance between earth and current carrying part	>100 M ohm
The luminaire shall be protected against surges and transients( Internal)	>/=5KV
The luminaire shall be protected against surges and transients of >/=10KV (External)	Yes
The Luminaires casing/housing (single piece housing) shall be pressure die casted aluminium alloy with higher thermal conductivity	Yes
The luminaire body must be corrosion resistant epoxy powder coated	Yes
All fastners must be of stainless steel	Yes
The entire housing (both LED section and driver section) shall be dust and water proof protection as per IS:10322 (Part 1):1982latest	IP66
Extruded silicon loop gasket shall be provided in the lantern body to ensure a weather proof seal between the UV Glass cover and the metal housing to exclude the entry of the dust,water,insects etc	Yes
Luminaries light transparency should be of Toughened glass	Yes
Toughned transparent glass cover thickness	>/=4 mm
Toughned Glass shall not get discoloured, shall not suffer degraation due to heat and ageing within warranty period	Yes
Number of electronic control gear per luminaire (power supplies)	1 No.
Driver components shall be industrial grade or above	Yes
PCB shall be FR4 grade minimum 0.8 to 1.0 mm thick or more	Yes
The Luminaires works on single phase three wires system (Phase, Neutral and Earth)	Yes
Suitable connector shall be provided for LED connection between driver output and LED	Yes
Length of ISI marked three core wire (shall be provided along with supply of material)	50 cm
Light Source	SMD LED Chip as per LM80/IS16106
Manufactures Name and and brand on the aluminium die cast body	Engraved / Embossed
Manufacturer's name, model number, serial number	Yes
Date of manufacture (month-year), and lot number as identification mark in side each unit and the out side of each packaging box	Yes
The operation characteristics voltage and power be marked inside of each LED luminaire unit	Yes
LED Make	OSRAM / NICHIA/CREE/SAMSUNG / SEOUL / LUMILED / PHILIPS/ EDISON/
System must have EMI/EMC compliance as applicable (Test reports shall be furnish on demand by buyer/consignee)	Yes
LM 79 (Photometry) (Ref IS:16106:2012) report from Central Government lab/NABL/ILAC accredited lab Reports shall be furnish on demand by buyer	

CERTIFICATIONS	(LM-79 report shall have total lumen output, power, PF, Current in Amps, CRI & CCT etc	Yes
	LM 80 & TM 21 (Part of LM 80) (Ref IS:16105:2012) Reports and Photo biological report for LED report from Central Government lab /NABL/ILAC accredited lab Reports shall be furnish on demand by buyer (LM-80 report shall have and the Photo Biological report of the LED Chip being used in the luminaire)	Yes
	Availability of test Report from Central Government lab/NABL/ILAC accredited lab to Indian Standrad IS:10322/part5/sec-5/2012andIS16107 (Part 2/Sec 1):2012	Yes
	DC or AC supplied electronic control gear for LED Module shall comply as per IS:15885 (Part 2/Sec 13)	Yes
	LED Luminaire for Flood Light shall comply with Complusory Registration (CRS) of BIS for safety as per IS 10322 (Part5/Section5): 2012 as applicable on the date	Yes
	Marking: All the products shall have marking details as per relevant BIS standard	Yes
	Seller shall furish all the test reports and certificates as per the technical specification to the purchase authority on demand	Yes

**टिप्पणी | Note::** Seller has given an undertaking that it has made arrangements for getting the stores from an authorized distributor / dealer / channel partner of the OEM of the offered product. At the time of delivery of goods, Seller will provide necessary chain documents (in the form of GST Invoice) to prove that the supplied goods are genuine and are being sourced from an authorized distributor / dealer / channel partner of the OEM. In case of any complaint about genuineness of the supplied products, Seller shall be responsible for providing genuine replacement supplies.

**खरीदार परिभाषित अतिरिक्त विशिष्टता के लिए | Buyer Defined Additional Specification for Trafco 16 meters High Mast Lighting Tower for large area with LED Flood Lighting System with 12 LED FLOOD LIGHT LUMINAIRES**

विनिर्देश   Specification	मूल्य   Value
Additional Technical Parameters	Refer the attached document in buyer added ATC section.

**शुद्धिपत्र | Corrigendum**

1. तक बढ़ाया गया | Extended Upto : 2024-11-01 17:00:00

**ईपीबीजी विवरण | ePBG Detail**

सलाहकार बैंक   Advisory Bank :	State Bank of India
ईपीबीजी प्रतिशत (%)   ePBG Percentage(%):	5.00

बोली लगाने वाले को बोली के नियमों और शर्तों के अनुसार लागू ईपीबीजी प्रस्तुत करना होगा | The bidder shall furnish ePBG as applicable as per bid's terms and conditions

**नियम और शर्तें | Terms and Conditions**

**1. General Terms and Conditions-**

- 1.1 This contract is governed by the [General Terms and Conditions](#), conditions stipulated to this Product/Service as provided in the Marketplace.
- 1.2 This Contract between the Seller and the Buyer, is for the supply of the Goods and/ or Services, detailed in the schedule above, in accordance with the General Terms and Conditions (GTC) unless otherwise superseded by Goods / Services specific Special Terms and Conditions (STC) and/ or BID/Reverse Auction Additional Terms and Conditions (ATC), as applicable
- 1.3 All GeM Sellers / Service Providers are mandated to ensure compliance with all the applicable laws / acts / rules including but not limited to all Labour Laws such as The Minimum Wages Act, 1948, The Payment of Wages Act, 1936, The Payment of Bonus Act, 1965, The Equal Remuneration Act, 1976, The Payment of Gratuity Act, 1972 etc. Any non-compliance will be treated as breach of contract and Buyer may take suitable actions as per GeM Contract.

**2. Buyer Added Bid Specific Terms and Conditions-**

**2.1 Scope of Supply:**

Scope of supply (Bid price to include all cost components) : Supply Installation Testing and Commissioning of Goods

**2.2 Certificates:**

Bidder's offer is liable to be rejected if they don't upload any of the certificates / documents sought in the Bid document, ATC and Corrigendum if any.

**2.3 Generic**

Buyer Organization specific Integrity Pact shall have to be complied by all bidders. Bidders shall have to upload scanned copy of signed integrity pact as per Buyer organizations policy along with bid. [Click here to view the file.](#)

**2.4 Buyer Added Bid Specific ATC:**

Buyer Added text based ATC clauses

Bidders are required to agree with all parameters mentioned in "Buyer uploaded ATC document" of the Bid and upload the same

2.5 Buyer Added Bid Specific ATC:

Buyer uploaded ATC document [Click here to view the file.](#)

नोट: यह सिस्टम जनरेटेड फाइल है। कोई हस्ताक्षर की आवश्यकता नहीं है। इस दस्तावेज़ का प्रिंट आउट भुगतान/लेनदेन उद्देश्य के लिए मान्य नहीं है।

Note: This is system generated file. No signature is required. Print out of this document is not valid for payment/ transaction purpose.