

RA Document

RA Details	
RA Technical End Date/Time	27-07-2020 14:00:00
RA Opening Date/Time	27-07-2020 14:30:00
RA Life Cycle (From Publish Date)	90 (Days)
RA Offer Validity (From End Date)	80 (Days)
Ministry/State Name	Ministry Of Coal
Department Name	Materials Management
Organisation Name	Northern Coalfields Limited
Office Name	Singrauli
Total Quantity	9
Item Category	High Mast Lighting Tower for large area with LED Flood Lighting System
MSE Exemption for Years of Experience and Turnover	No
Startup Exemption for Years of Experience and Turnover	No
Document required from seller	Certificate (Requested in ATC), OEM Authorization Certificate *In case any bidder is seeking exemption from Experience / Turnover Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer
Inspection Required	No

EMD Detail

Advisory Bank	State Bank of India
EMD Percentage(%)	2.00
EMD Amount	126999

ePBG Detail

Advisory Bank	State Bank of India
ePBG Percentage(%)	10.00
Duration of ePBG required (Months).	62

(a). EMD EXEMPTION: The bidder seeking EMD exemption, must submit the valid supporting document for the relevant category as per GeM GTC with the bid. Under MSE category, only manufacturers for goods and Service Providers for Services are eligible for exemption from EMD. Traders are excluded from the purview of this Policy.

(b). EMD & Performance security should be in favour of Beneficiary, wherever it is applicable.

Beneficiary:

NCL

Singrauli, Materials Management, Northern Coalfields Limited, Ministry of Coal
(Northern Coalfields Ltd)

Splitting

RA splitting not applied.

**High Mast Lighting Tower For Large Area With LED Flood Lighting System
(9 pieces)**

Technical Specifications

[* As per GeM Category Specification](#)

Specification	Specification Name	Values	Bid Requirement (Allowed Values)
GENERIC	Height of High Mast Tower (in Meters)	30	30
	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 at site	Yes. Including Civil work at site
	Each pole shall be supply with suitable foundation bolts,nuts and washers, Instruction manuals	Yes	*
	Onsite warranty (in Years)	2	2, 3, 5
High mast System	Cross section of mast (no of sides)	20 sided polygon	*

No of sections	3	3
Effective length of each section (in m)	10	10
Material construction: The mast shall be manufactured using special steel plates, conforming to	355 grade as per BSEN10 025	355 grade as per BSEN10 025
Bottom diameter (in mm) - Minimum	610	*
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	5, 6
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	1, 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	Yes	*

	boxes		
	Test Report from Central Government lab/NABL/ILAC accredited lab and report shall furnish to buyer on demand	-	*
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)	2	*
	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	47 m/sec, 50 m/sec
	The design Life of the mast shall be (in Years)	25	*
	The Test Report from Central Government lab/NABL/ILAC	Yes	*

	accredited lab and report shall furnish to buyer on demand		
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 300	1200 x 250, 1200 x 300
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 65	IP 55, IP 65
	Junction Box material	Cast aluminium	*
	Cable connections from the top junction box to the individual luminaries and cable shall conforming to	IS: 694: 2010 latest	*
	No of core	5	3, 4, 5
	Cable category	FR-LSH	FR, FR-LSH, 1, 2
	Size of cable (in Sq mm)	4	4
	Conductor material shall be	Copper	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	Yes	*

Winch	Assembly		
	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	*
	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	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	*
HEAD FRAME	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	-	*
	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	Yes	*

	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		
	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	>/=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	Yes	*

	incoming cable		
	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	5	1, 2, 3, 4, 5
	Size of cable (in Sq.mm)	4	1.5, 2.5, 4, 6, 10, 16
	Cable shall be	Unarmoured	Armoured, Unarmoured
	Conductor material shall be	Copper	Copper, Aluminium
	Cable Category	C1	1, C1, C2
	Incoming power cable from feeder panel to base compartment of mast and cable shall conforming to	IS:7098 (Part 1):1988 latest	IS:7098 (Part 1):1988 latest
Feeder pillar Panel	Feeder pillar panel for each mast	Yes	Yes, No without feeder pillar panel
	Feeder panel shall be suitable for	415 V, 3 phase, 4 wire, 50 Hz, AC	415 V, 3 phase, 4 wire, 50 Hz, AC, 230 V, 1 phase, AC 50 Hz
	The control panels shall be	Stand mounted	Stand mounted, No without feeder pillar panel
	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	IP 65	IP 55, IP 65, No without feeder pillar panel

buyer on demand		
It shall be fabricated out of	14 SWG CRCA sheet steel	14 SWG CRCA sheet steel, No without feeder pillar panel
Thickness of sheet (in mm)	2	2, No without feeder pillar panel
The panels shall be given pre-treatment and powder coated and color shall be	Grey	Grey, No without feeder pillar panel
The stand shall be painted in	Black color	Black color, No without feeder pillar panel
Cable entry shall be at the	Bottom	Bottom, No without feeder pillar panel
The panels shall have	knock outs of the required cable	knock outs of the required cable, No without feeder pillar panel
Laminated circuit diagram shall be pasted	inside of the door	inside of the door, No without feeder pillar panel
Feeder pillar shall have pad locking arrangement	Yes	Yes, No without feeder pillar panel
Earth terminal	12 mm dia. Bolts	12 mm dia. Bolts, No without feeder pillar panel
Panel shall have a sloping cover to avoid accumulation of dust	Yes	Yes, No without feeder pillar panel
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	yes, No without feeder pillar panel
Timer for automatic ON & OFF of lights with pilot lamps shall be provided	Yes	Yes, No without feeder pillar panel
Toggle Switch for AUTO/OFF/MANUAL mode	Yes	*
Bus bars material	Yes. Copper	Yes. Copper, No without feeder pillar panel

	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	4	1, 2, 3, 4, 5, No without feeder pillar panel
	Size of cable (in Sq.mm)	10	1.5, 2.5, 4, 6, 10, 16, No without feeder pillar panel
	Cable Shall be	Armoured	Armoured, Unarmoured, No without feeder pillar panel
	The conductor material shall be	Aluminium	Copper, Aluminium, No without feeder pillar panel
	cable category	C1	1, C1, C2, No without feeder pillar panel
LED FLOOD LIGHT LUMINAIRE	No. of Luminaires for each high mast lighting tower (in Nos)	12	12
	LED Luminaire conformity to IS:10322/Part5/Section5/2012 latest 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	350W	350W, 400W
	Luminaire System Efficacy (Lumen/watt)	>= 100 Lm/Watt	>= 100 Lm/Watt
	Ingress Protection (IP Rating) as per	IP65	IP65, IP66

IS:10322 (Part 1):1982 latest		
Mounting brackets (included)	Adjustable	Adjustable
Input operating Voltage range and frequency	140 to 270 Volts AC at 50 Hz+/-2 Hz with auto cutt off at below 120V	90 to 300 Volts AC at 50Hz+/-2Hz, 140 to 270 Volts AC at 50 Hz+/-2 Hz with auto cutt off at below 120V
Automatic Higher Cut off voltage above 300 volt	Yes	*
Rated voltage	230 V AC 50 Hz	230 V AC 50 Hz, 415+/-10% V AC 50 Hz +/-5%
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)	6000K (+/- 500K), 5000K (+/- 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	Poly carbonate lense, NA
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	Yes	*

better		
Junction temperature	< 85 degC	*
Operating temperature range	-10 deg C to +55 deg C	-20 deg C to +50 deg C, -10 deg C to +50 deg C, -10 deg C to +55 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	>/=5KV, >/=4KV
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	Yes	*

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		
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 degradation due to heat and ageing within warranty period	Yes	*
Number of electronic control gear per luminaire (power supplies)	2 Nos.	1 No., 2 Nos., 3 Nos., 4 Nos.
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)	100 cm	50 cm, 100 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,	Yes	*

	model number, serial number		
	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	Yes	*

	Government lab/NABL/ILAC accredited lab to Indian Standard IS:10322/part5/sec-5/2012 and IS16107 (Part 2/Sec 1):2012		
	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 Compulsory 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 furnish all the test reports and certificates as per the technical specification to the purchase authority on demand	Yes	*

* Specifications highlighted in bold are the Golden Parameters.

* Bidders may note that In respect of non-golden Parameters, the specifications 'Values' chosen by Buyer will generally be preferred over 'Bid requirement (allowed Values) by the Buyer.

Additional Specification Documents

Consignee/Reporting Officer and Quantity

S.No.	Consignee/Reporting Officer	Address	Quantity	Delivery Days	
1	Binay Kumar Singh	486887,REGIONAL STORES, NCL, AMLOHRI PROJECT, PO - AMLOHRI DISTT - SINGRAULI M.P.	4	90	
2	Sanjeev Mohan	486890,REGIONAL STORES, JAYANT PROJECT, NCL, PO - JAYANT, DISTT - SINGRAULI M.P.	5	90	

Bid Specific Additional Terms and Conditions

1. Scope of supply (Bid price to include all cost components) : Supply Installation Testing and Commissioning of Goods
2. Purchase preference to Micro and Small Enterprises (MSEs): Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase preference, the bidder must be the manufacturer of the offered product in case of bid for supply of goods. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product or service. If L-1 is not an MSE and MSE Seller (s) has/have quoted price within L-1+ 15% of margin of purchase preference /price band defined in relevant policy, such Seller shall be given opportunity to match L-1 price and contract will be awarded for percentage of 25% of total value.
3. The bidder is required to upload, along with the bid, all relevant certificates such as BIS licence, type test certificate, approval certificates and other certificates as prescribed in the Product Specification given in the bid document.

[This RA is also governed by the General Terms and Conditions](#)

---Thank You---