RRMD, BARC
Trombay
Mumbai - 400 085
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Government of India
Bhabha Atomic Research Centre
Research Reactor Maintenance Division
Electrical Maintenance Section

TENDER NOTICE

Tender Notice No: RRMD/TN-54/2018 Date: 05/ 11/2018

Sub: Removal of old lights, supply, installation & testing of LED Street lights for Cirus Jetty and LED Tube lights in RG plant areas.

Sealed tenders are invited for and on behalf of the President of India by Head, RRMD, Reactor Group, BARC, Trombay, Mumbai-400085 from experienced vendors for Removal of old lights, supply, installation & testing of 200 V DC LED Jetty Street lights & LED Tube lights in RG plant areas.

1.0 Description of the work:

a. Removal of old lighting fixtures of 150 Watts from Jetty street lights.
b. Modification of street light pole arms, repair of pole base/plate including pedestal repair if any.
c. Supply & Installation of new LED lighting fixture 200 VDC, 70W, with PSM bank as per specification.
d. Removal of old tube lighting fixtures of 40 W from Dhruva, Cirus, CF & P-4.
e. Supply & Installation of new 12 W, 230 V AC, LED tube lights as per specifications.
f. Painting of all poles as per specification.
g. Useful material from the old lighting fixtures will be segregated and scrap generated will be shifted to scrap yard at site.

2.0 Terms and conditions:

2.1 The offer should be valid for consideration for 30 days from due date of the offer.
2.2 Contractor should complete the whole job within 6 months after receipt of work order.
2.3 On complete execution of the work to our satisfaction, payment would be released on submission of bills in triplicate along with an advance stamped receipt.
2.4 **The vendor should also clearly reply in his tender to "whether the contractor / vendor has any relative working in BARC or the contractor himself is an ex-employee of BARC or the contractor has any ex- employee of DAE on his payroll".**
2.5 Since the job has to be carried out at reactor group plants in BARC, the employees deputed at site by the contractor should have a valid police verification certificate/ vigil pass.

2.6 Contractor should mention their valid **GST. No**. in the quotation, failing which the offer shall be rejected.

3.0 Instructions to tenderers:

3.1 **Industrial Safety:** Industrial Safety Undertaking will have to be signed after discussion between Contractor/Supervisor of concerned works contract & Safety Officer/Coordinator of Reactor Group. The contractor or executing agency shall adopt adequate safety measures as per the Job Hazard Analysis (JHA) control measures suggested. The personal protective equipment to contract workers, supervisors & engineers shall be supplied by the contractor at his own cost.

3.2 **General Requirement:** All workers, supervisors & engineers of the contractor shall wear necessary protective clothing, safety belts with harness, helmets & canvas/safety shoes properly laced & follow the safety requirements strictly, while working at site.

3.3 **For working at Heights:** All the persons should be physically, mentally fit & to work in heights, medical fitness certificate should be furnished for all workers. The responsibility of all safety precautions related with a particular job at site primarily lies with the Contractor. The contractor & his persons shall strictly observe all security and safety regulations prevailing at the site. The contractor & his team working at the site shall follow the safety measures as mentioned in "Safety with scaffolding" of GCC & other safety measures at site as per "Construction Safety Manual" available at www.tenderwizard.com/DAE or www.barc.gov.in. All the workers, supervisors & engineers of the contractor shall have proper medical certificates issued by the competent authorities.

3.4 Safe industrial practices for entering & working in confined spaces are to be followed by Contractor & his team, wherever applicable.

3.5 Safe industrial practices are to be followed for use of portable ladders & step ladders by Contractor & his team, wherever applicable.

3.6 All workers should be insured at the cost of the contractor for risk of working at BARC & no claim will be payable by BARC.

3.7 Tenderers should submit documents in support of their technical capabilities. Material supplied should be approved by EIC before delivery. Venders who have done similar work in DAE or other govt. organization and having test certificates for the LED lights as per specification will only be considered. Work is to be carried out by skilled technician only. Interested parties may contact Shri Rajkumar / Shri. M K Saraswat on phone no. 25594310 / 25596225 from 9 AM to 5 PM to visit the site and to collect the tender notice along with technical specification.

3.8 **Price quoted shall be filled up in the same format given in the Schedule-B with GST and no other charges will be payable.**

3.9 Tender shall be submitted in the sealed cover in the vendor's standard company format quoting our **Tender no.** & last date of submission on the envelope and addressed to Head, RRMD, BARC, Trombay, Mumbai-400085 and submitted in the RG Office, Dhruva. The offers should be submitted so as to reach RG Office, Dhruva on or before **15-11-2018** up to 1500 Hrs. **Tender is to be sent only through registered post or speed post to, AO, RG Office, Dhruva Reactor, BARC, Mumbai 400085. Hand delivery or courier of tenders will not be accepted.**

3.10 Tenders shall be opened on the same day at 1530 Hrs. in AO office, GSS, CC, Trombay, BARC.

3.11 The acceptance of the tenders will rest with Head, RRMD, Reactor Group who does not bind himself to accept the lowest offer, and reserves to him the authority to reject any or all the tenders received without assigning any reason.

3.12 Quotation received after the due date and time shall be summarily rejected.

Thanking you,

Yours faithfully,

Sd/-

Head, RRMD
(For and on behalf of the President of India)

Enclosures: Schedule –A & B

Schedule –A

Tender Notice No: RRMD/TN- 54/2018 Dated 05/ 11 /2018

Name of Work: Removal of old lights, supply, installation & testing of LED Street lights for Cirus Jetty and LED Tube lights in RG plant areas.

Sl. No.	Description	Qty	Unit	Rate
1.	Water	As required	Litre	Free
2.	Electricity	As required	KWH	Free

(Rajkumar)
SO/F

Schedule – B

Tender Notice No: RRMD/TN- 54/2018 Dated 05/ 11 /2018

Name of the work: Removal of old lights, supply, installation & testing of LED Street lights for Cirus Jetty and LED Tube lights in RG plant areas.

Sr. No.	Description	Unit	Qty	Supply Rate (Rs)	Instl / repair Rate (Rs.)	Total Rate (Rs.)	Total Cost (Rs.)
1.	Modification of Jetty pole arms as per site condition and supply & installation of 2A DC MCB, TB, lugs, ss screws for fixing pole box cover etc. as per tender specifications.	No.	32				
2.	Supply & Installation of 200 VDC, 70 Watts LED street light with 5 year warrantee from OEM as per tender specifications.	No.	34				
3.	Supply and Installation of 12 W, 230 V AC LED Luminaries as per specifications.	No.	500				
4.	Repair of pole base by welding of base in base plate and welding of required size plate on four sides as per site condition along with pedestal repair if required.	No.	32				
5.	Painting of poles as per specification.	Sq.M	128				
	Total Basic Cost						
	GST @ 5 % (for Govt. R & D purpose, certificate will be issued by BARC)						
	Total Cost including GST						

Seal & Sign
Contractor

Annexure – B

Technical Specifications

RRMD/TN/54 /2018 dated 05/11/2018

Name of the work: Removal of old lights, supply, installation & testing of LED Street lights for Cirus Jetty and LED Tube lights in RG plant areas.

This tender includes removal, supply, testing & installation of solid state LED street light luminaries, LED tube lights etc. as per specification given, complete in all respect with all fixing hardware requited at site.

1.0 S&I of LED Street Lights:

Solid state LED street lights are for replacement of existing lights on the Cirus Jetty poles. These lights are for industrial use and will be strictly as per specification given. Ladders, Scaffolding material (if available) will be provided for the replacement of lights at higher elevation, otherwise it has to be arranged by the contractor. Contractor has to put back the material at its position. Pole arm fixing arrangement, welding of pole base to pole base plate, DC MCB, SS nut bolts, SS screws etc. & repair of pedestal if required is to be done by the contractor as directed by EIC. Job is to be complete in all respect and if, anything required to complete the work, it is to be arranged by the contractor. Interested parties are required to visit the site before submitting their offer to know the exact scope of the work. Small length of copper cable is to be laid from new DG building to Jetty gate switch board room/first pole, as these street lights are to be supplied from two different sources. Cable will be provided by us, however underground/ surface laying and termination with all required material is in the scope of the vendor.

2.0 LED Tube lights:

Solid state LED tube lights are for replacement of existing fluorescent tube lights on the existing fixtures. Point wiring is not required but fixtures wiring including replacement of holders is to be done. If there is any short circuit it is to be rectified (including rewiring if required) by the vendor. These lights are for industrial use and will be in continuous operation throughout the day & night. LED lights are to be supplied as per specification. Safety precautions are to be strictly followed during the work as per tender terms & conditions. Useful materials from the old fixtures are to be segregated and put at designated place & scrap generated has to be shifted in the scrap yard at site.

3.0 Technical Specification for luminaries

Technical Specification for DC-BUS Operated Solid State 200 V DC Streetlight		
S. No.	**Parameter**	**Specification**
1.	Rated lamp Voltage	200V DC max. (DC-Bus Powered from DC Generator Bank.)
2.	Power rating	70W nominal, but should be adjustable to 85W, Dimmable to 20-100%.

3.	Light Source	InGaN chip - Phosphor converted white
4.	CCT	6500K Nominal
5.	CRI	85 + 5
6.	Beam Angle	120 degrees
7.	Lumens source	13,000 lumens +/- 10% at 70W (at 25C).
8.	E-cap	No Electrolytic Capacitors to be used in luminaries
9.	Protection	Over voltage, voltage surge, short circuit, protection against 300V AC for 72hours
10	Housing	Aluminium Alloy Housing, corrosion proof
11.	Cover Lens	PMMA cover Lens, Poly(methyl methacrylate)
12.	Max temperature rise of AL housing	15 degrees Centigrade above ambient
13.	IP Protection	IP67
14.	Burning Hours	1,00,000 hours- L70life.
15.	Surge Rating of Streetlight	10KV.
16.	Warranty	5years.
DC-BUS Power Bank		
1.	Incoming	230V +/- 10%, 50Hz, input Power
2.	Make of MCB	Legrand/L&T/ Siemens/ Merlin Gerin
3.	Outgoing	200VDC output adjustable
4.	DC Power source	A Bank of multiple Power Server modules (PSM) should be used. In case of failure of one module the system should automatically adjust the load to required level to feed all connected lights without overloading the modules. Electrolytic capacitors, used should be rated for 1, 50,000 hours operation at rated conditions. System to have in-built timer to activate the lights at preset time in the evening and, shut off at designated time in the morning. Intelligent system logic also should be able to sense reduction of daylight during daytime (in case of dark clouds) and activate lights to compensate for darkness.
5.	DC P S M Harmonic	AS per IEC 61000-3-2, CLASS A
6.	Power factor of server	>0.94

7.	DC power module Protection	Against, short circuit, surge voltage, PSM set should be controlled by suitable MCB
8.	PSM Load Sharing	Mechanism shall be provided for uniform load sharing among PSMs at various output load current.
9.	PSM current	Each PSM shall be provided by facility to monitor the Current flowing through it.
10.	Alarm for PSM failure	Audio visual alarm with acknowledge and reset facility should be provided
11.	Enclosure	Made out of Sheet steel, powder coated, Siemens gray, corrosion proof for outdoor use- IP54
12.	Cooling	Temperature Rise in DC-BUS Generator Bank shall not be more than 5degrees above ambient.
13.	Surge Rating	SPD rating – 10KV, with back up SPD
14.	Battery Back up	The system should have facility to connect a Battery Bank as a Option, or auxiliary power supply.
15.	Warranty	5 years.
16.	PDI Test: will be carried out at supplier's premises and supplier's cost. Other than visual inspection and functional checks Supplier should demonstrate the following	a. Electric Current b. Power factor c. Lumen output for at least two sample Luminaries. d. C R I e. CCT f. Lux g. Protection features like, over load, over current. h. Auto dimming with respect to daylight i. Power consumption j. Beam Angle. k. Gonio-photometry of LED l. Temperature Rise Test. m. THD
17.	Vendor qualification	Supplier should confirm, and prove in their offer that the Solid State Light Source is qualified for 1,00,000 hours operation
18.	Proof of successful functioning.	Functioning of similar luminaries of offered make installed in other establishment for minimum 1year
19.	Acceptance Criteria	Test results as mentioned in PDI shall be within specified limit
20.	Documentation:	Along with offer: Complete Technical details as given in the specification and additional information if any, Polar Curve, documents for vendor qualification. Before fabrication: Electrical circuit diagram and GA for DC power

		source panel shall be submitted for approval from BARC. PDI: Test Reports
Technical Specification for 12 Watt, 230 V AC LED Tube Light		
1.	Input Voltage	230 V AC
2.	System Wattage	12W-14 W
3.	Surge Rating level	4KV Surge rating to IEC 61000-3-2
4.	Power Supply	Double Redundant Power Supply for increased reliability for long life of 1, 00,000 hours operation.
5.	Light source Chip	InGaN on Saphire chip- Phosphor Converted White
6.	Thermal Resistance of SSL Package	< 18 Degrees Centigrade /Watt
7.	CCT	5500 – 6500K
8.	CRI	83 typical
9.	SSL Source Lumens	2400 lumens +/- 10%.
10.	Optics	Diffuse optics- Polycarbonate
11.	Housing Design	Square Cross-section 25mm x 25mm Heat sink housing with PC semi-circular Diffused LENs, with minimum 140 sq inch heat Sink exposed Surface area.
12.	Dimensions	40mm X 26mm X 1200mm nominal (Retrofit in existing fitting)
13.	Material of construction	Extruded Aluminum - Powder Coated white
14.	IP Protection	IP40
15.	Thermal Management	Max Temperature rise of Al Housing - 8degrees Centigrade above Ambient.
16.	Life time	1,00,000 hours- L70 life
17.	Warranty	5years

4.0 PAINTING OF POLES:

Manual scrapping, wire brushing, cleaning the surfaces thoroughly. Application of 2 coats of oxide Zinchromate primer of approved make over the prepared surface. Applying 2 coats of Aluminium paint on the poles as per approved manufacturer's specifications. This includes the cost of labour, allied material, ladder, making on poles etc. as per instructions of Engineer-in-charge.

5.0 PACKING & DELIVERY:

All the materials shall be suitably packed and protected so as not to suffer deterioration, damage or breakage during transit from supplier's works to site and storage in a tropical climate.

6.0 SITE CLEARANCE:

After completion of the job site is to be cleared for scrap/debris generated. Useful material is to be segregated and scrap to be shifted at scrap yard or as directed by EIC.

(Rajkumar)
SO/F