



BHARAT HEAVY ELECTRICALS LIMITED
RAMACHANDRAPURAM: HYDERABAD – 502 032

Ref: HY/M&S/P&C/SPECS/LED
Rev: 02
Dt: 07/11/2019
Page: 1/8
PR no: 600003820 dated
29.08.2019

SPECIFICATIONS OF OFFICE LED LUMINAIRE

[PROCUREMENT OF OFFICE LED LIGHTING FOR BHEL Hyderabad.

1. OBJECTIVE:

To procure office LED luminaire like LED tube lights, 2' X 2' LED False Ceiling fitting with lamps (herein referred as 2' X 2' False ceiling luminaire), down lighters (maximum wattage for down lighters – 12 W and 6 W)

2. BRIEF DESCRIPTION:

2.1 The Scope of work includes **Supply, Erection** of LED Luminaire, including **Removal & Buyback of the existing Luminaires**.

2.2 **The LED luminaire** shall replace the existing Fluorescent Fittings.

2.3 *Existing Office lighting details are as under:*

All types of Fluorescent Tube lights – T5 (984 nos), T8 (4847 nos) and T12 (349 nos) (Total quantity – 6180)

All types of Fluorescent 2' X 2' false ceiling luminaire – 4 X 20 W (150 nos), 2 X 36 W (3391 nos) (Total quantity – 3541)

All types of Fluorescent down lighters of **cut-out size 185 mm dia (All the existing conventional down lighters are of Philips make and model no: FBH145/118)** – 2 X 18 W (27 nos), 1 X 18 W (1173 nos) (Total quantity – 1200)

DETAILED SCOPE AND GENERAL TERMS & CONDITIONS FOR PROCUREMENT OF OFFICE LED LIGHTING IN VARIOUS AREAS OF FACTORY

Specifications		Vender to Note/Specify / Confirm	Deviations if any /Remarks
3 PRE-QUALIFICATION REQUIREMENT			
3.1	The scope of work includes Supply, Erection of LED Luminaire, including Removal & Buyback of all types of conventional office luminaire. Supplier should quote for total work. Offers for part works will not be considered for Technical Evaluation.	CONFIRM	
3.2	Supplier should be Original manufacturer of LED luminaire or Authorised dealer		

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	of the original manufacturer of LED Luminaire. Supporting documents should be submitted.	CONFIRM		
3.3	The vendor should have executed at least two orders for supply of at least 10% of the quantity of individual luminaire in this enquiry. Individual PO copies for individual items of this enquiry may also be submitted i.e. separate PO copies of each item.	CONFIRM		
4.	TECHNICAL SPECIFICATIONS			
4.1	LED Office Luminaire consisting of LED module, electronic control gear and wiring up to terminals. The LED driver should be SMPS driven constant current driver and BIS approved. Proof of BIS certification should be submitted along with offer. The driver should have auto cut-off feature if the input voltage goes beyond the operating range of driver and should have auto restart feature if the input voltage comes back within the operating range of driver. The input voltage range shall be 140-270 Volts AC, 50 Hz. Note: It is applicable for all the types of fittings i.e. LED tube light, 2' X 2' False Ceiling luminaire, Down lighters.	CONFIRM		
4.2	Input Voltage range shall be 1 phase, 140-270 Volts AC, 50 Hz. Note: It is applicable for all the types of fittings i.e. LED tube light, 2' X 2' False Ceiling luminaire, Down lighters.	CONFIRM		
4.3	LED luminaire should be with SMD (Surface Mount Device) LEDs only. Chip on board (COB) not acceptable. Luminaire lifetime should be $\geq 50,000$ hrs @ L70B50 Note: Chip on Board is acceptable for 6W Down lighters only.	CONFIRM		
4.4	LEDs of Cree/Nichia/Seoul/Samsung/ Philips Lumileds/OSRAM shall be used in manufacturing of Luminaire. Other makes are not accepted. Recent Purchase order of above offered make LED chip for should be enclosed along with technical bid. Note: It is applicable for all the types of fittings i.e. LED tube light, 2' X 2' False Ceiling luminaire, Down lighters.	SPECIFY THE MAKE(s) & MODEL(s)		

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4.5	Lumen Output and luminous efficacy: The total lumens offered by each type of luminaire and its system luminous efficacy should be as under	CONFIRM & SPECIFY THE VALUES		
	1) 4 Feet Double LED tube light ≥ 4140 Lumens and luminous efficacy ≥ 115 lumen/Watt			
	2) 4 Feet Single LED tube light ≥ 2070 Lumens and luminous efficacy ≥ 115 lumen/Watt			
	3) 2' X 2' False Ceiling luminaire ≥ 3430 lumens and luminous efficacy ≥ 110 lumen/Watt			
	4) Down lighter (Max. wattage ≤ 12 W) ≥ 1200 lumens and luminous efficacy ≥ 100 lumen/Watt			
	5) Down lighter (Max. wattage ≤ 6 W) ≥ 600 lumens and luminous efficacy ≥ 100 lumen/Watt			
	Note: The offer should comply with all the requirements in this clause. Non-compliance with any requirement will result in technical disqualification of offer.			
4.6	LM79 test report(s) from NABL accredited laboratory for the offered model of the Luminaire should be attached along with technical bid.	CONFIRM		
	Note: Submit separate reports for Tube lights, 2' X 2' False Ceiling luminaire, 12W and 6W Down lighters			
4.7	LM80 test report of LED's from Manufacturer should be attached along with technical bid.	CONFIRM		
	Note: Submit separate reports for Tube lights, 2' X 2' False Ceiling luminaire, 12W and 6W Down lighters			
4.8	Ingress Protection IP20 or greater. Supporting test report for the luminaire should be attached along with technical bid.	CONFIRM		
	Note: Submit separate reports for Tube lights, 2' X 2' False Ceiling luminaire, 12W and 6W Down lighters			
4.9	Color Rendering Index (CRI) should be ≥ 80	CONFIRM		
	Supporting test report should be attached along with technical bid.			

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	Note: Submit separate reports for Tube lights, 2' X 2' False Ceiling luminaire, 12W and 6W Down lighters			
4.10	P.F (Power Factor) should be > 0.95	CONFIRM		
	Supporting test report should be attached along with technical bid.			
	Note: Submit separate reports for Tube lights, 2' X 2' False Ceiling luminaire, 12W and 6W Down lighters			
4.11	THD (Total Harmonic Distortion) should be < 15%. Supporting test report should be attached along with technical bid.	CONFIRM		
	Note: Submit separate reports for Tube lights, 2' X 2' False Ceiling luminaire, 12W and 6W Down lighters			
4.12	Surge protection should be ≥ 2KV for all the luminaire	CONFIRM		
4.13	LED colour temperature should be between 5000K to 6500K	CONFIRM		
	Note: It is applicable for all the types of fittings i.e. LED tube light, 2' X 2' False Ceiling luminaire, Down lighters.			
4.14	Supply of general purpose basic battens for LED lamp with system lumen for ceiling/pendant/wall mounting. The channel for mounting LED Tube Lights is a single piece made of powder-coated white galvanized sheet steel with Soft Contoured injection moulding plastic end caps, snap fit polycarbonate lamp holders which conforms to IS 10322 Part 5 / Sec 1: 2012. LED Tube light should be with aluminium housing, where better heat dissipation can be ensured. Diffuser should be polycarbonate.	CONFIRM		
	Note: It is applicable for both Double LED Tube light and Single LED tube light.			
4.15	CRCA powder coated housing, highly efficient PMMA diffuser. The cut-out of existing CFL Down lighter is 185 mm. The fitting should be suitable for Armstrong False Ceiling. The fitting should conform to IS 10322 Part 5/Sec 2: 2012.	CONFIRM		

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	Note: It is applicable for 2' X 2' False Ceiling luminaire and Down lighters of both 12W and 6W. If the dimensions of the offered Down lighter LED light fitting < cut-out (in place of dia as per old spec) of the existing fitting, suitable clamping mechanism/support or a 600 mm X 600 mm similar tile with suitable cut-out may be supplied along with fitting whichever is deemed fit.			
4.16	MAKE & MODEL of Luminaire offered. Note: It is applicable for all the types of fittings i.e. LED tube light, 2' X 2' False Ceiling luminaire, Down lighters.	SPECIFY THE MAKE(s) & MODEL(s)		
5	OTHER TERMS AND CONDITIONS:			
5.1	Supplier shall provide Detailed Catalogues of the offered LED Luminaire, along with technical bid. Vendor should bring a sample of each fitting being offered to the factory for technical evaluation as and when demanded by BHEL. Note: It is applicable for all the types of fittings i.e. LED tube light, 2' X 2' False Ceiling luminaire, Down lighters.	CONFIRM		
5.2	Removal of existing luminaire, taking them out of the factory for buyback. The vendor has to arrange vehicle & labor for transport of the above dismantled fittings. The necessary gate passes will be issued by BHEL. Note: It is applicable for all the types of fittings i.e. LED tube light, 2' X 2' False Ceiling luminaire, Down lighters.	CONFIRM		
5.3	Supplier shall confirm availability of spares and their replace-ability for the independent parts of the luminaire for the purpose of repair or replacing the luminaire in case of any fault within 72 hours of complaint during 5 years warranty duration. Vendor shall repair the luminaire INSITU . Vendor to provide service contact mobile no /land line no. /email Id after placement of purchase order. Vendor should send their technicians to repair/replace the faulty fitting. Some spare luminaires should be kept available for repair/replacement during guarantee period for fast rectification.	CONFIRM		

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	<i>If the Supplier fails to keep luminaire in working condition within 72 hours from the date (time) of call from BHEL through e-mail/Phone, rate of penalty applicable is 0.5% of cost of fittings under breakdown per week or part thereof. (Total penalty during Maintenance period is Max. 10% of total P.O. Value).</i> <i>Note: It is applicable for all the types of fittings i.e. LED tube light, 2' X 2' False Ceiling luminaire, Down lighters.</i>			
5.4	The standard guarantee for complete fitting will be 60 months from the date of commissioning. Supplier shall confirm five years free maintenance of LED luminaire including materials and Lumens as per LM70 even at 5th year. <i>Note: It is applicable for all the types of fittings i.e. LED tube light, 2' X 2' False Ceiling luminaire, Down lighters.</i>	CONFIRM		
5.5	The vendors have to submit Performance Bank Guarantee of 10% of Purchase order value for 63 months from the date of commissioning i.e. 60 months for warranty period and 3 months for releasing period. <i>Note: It is applicable for all the types of fittings i.e. LED tube light, 2' X 2' False Ceiling luminaire, Down lighters.</i>	CONFIRM		
5.6	BHEL reserves the right to do PDI (Pre Dispatch Inspection) at manufacturing unit of the Supplier. Manufacturer/Dealer should have own NABL – accredited laboratory for witnessing the declared parameters as per the tender document or all the testing equipment should have valid calibration certificates issued by NABL accredited agency. <u>The list of equipment and the calibration certificates should be submitted along with the technical offer.</u> <i>Note: Dealer can use Manufacturer's testing facilities.</i> <i>Note: It is applicable for all the types of fittings i.e. LED tube light, 2' X 2' False Ceiling luminaire, Down lighters.</i>	CONFIRM		
5.7	Supplier has to quote Lump sum amount against each line item as mentioned in the enquiry. The calculation sheet/cost arrival for each line item should be enclosed in a separate sheet for each line item	CONFIRM		

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	Rates shall be inclusive of Supply, Installation and Buy Back cost of the existing luminaires and L1 will be decided based on total value. i.e. Total value = supply cost + Installation cost – buy back cost. Hence, Supplier shall provide breakup values for Supply, Installation & buyback Note: It is applicable for all the types of fittings i.e. LED tube light, 2' X 2' False Ceiling luminaire, Down lighters.			
5.8	Scope of installation for tube lights: The work involves hiring of ladder, shifting the LED lights from stores, disconnection and dismantling of existing wiring wherever existing wiring is not technically feasible, dismantling of existing conventional fitting, shifting and re-fixing of down rods in case the distance between the down rods is not matching with the distance between the holes for down rods in the LED fitting, fixing of LED fitting, connection of 3C X 1.5 sq.mm wire of approximately 2.0 m length from ceiling rose to the LED fitting in place of existing wiring, testing and commissioning, shifting of dismantled fittings to the scrap store/outside the factory for buyback. <u>Down rods to be supplied by vendor in case existing down rods are not suitable for the fitting. Any other modification/work not envisaged above is in vendor's scope</u> Note: It is applicable for both Double LED Tube light and Single LED tube light	CONFIRM		
5.9	Scope of installation for false ceiling fittings: The work involves hiring of ladder, shifting the LED lights from stores, disconnection and dismantling of existing wiring wherever the existing wiring is not technically feasible, removal of existing conventional fitting, fixing of LED fitting, connection of 3C X 1.5 sq.mm wire of approximately 2.0 m length from ceiling rose to the LED fitting in place of existing wiring, testing and commissioning, shifting of dismantled fittings to the scrap store/outside the factory for buyback. <u>Any other modification/work not envisaged above is in vendor's scope</u>	CONFIRM		

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	Note: It is applicable for 2' X 2' False Ceiling luminaire and Down lighters of both 12W and 6W. If the dimensions of the offered Down lighter LED light fitting < the cut-out (in place of dia as per old spec) of the existing fitting (i.e. 185 mm), suitable clamping mechanism/support or a 600 mm X 600 mm similar tile with suitable cut-out may be supplied along with fitting whichever is deemed fit.			
5.10	Supply of 3C X 1.5 sq.mm PVC insulated flexible copper cable – 20000 meters	CONFIRM		
5.11	Transportation (To & fro) for buyback items is in the scope of supplier.	CONFIRM		
	Note: It is applicable for all the types of fittings i.e. FL tube light, 2' X 2' False Ceiling luminaire, Down lighters.			
5.12	Supplier has to accept/confirm all above points. Otherwise, the offer will be technically disqualified. If possible, vendor may visit the factory for visual confirmation for fittings to be offered before participating in the tender.	CONFIRM		
	Note: It is applicable for all the types of fittings i.e. LED tube light, 2' X 2' False Ceiling luminaire, Down lighters.			

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