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RCnD COMPLEX,
TROMBAY, MUMBAI - 400 085

GOVERNMENT OF INDIA

BHABHA ATOMIC RESEARCH CENTRE
REACTOR DESIGN & DEVELOPEMENT GROUP
DIVISION OF REMOTE HANDLING & ROBOTICS (DRHR)

Ref: DRHR/RCM/AKB/2018/MF/INQ/209

Date: 05/02/18

Minor Fabrication- Invitation of quotations

Sub: Replacement of existing faulty tube lights with LED tube lights and other electrical works in RCM workshop, RCnD Complex as per as per Annexure-I.

Dear Sirs,

1. Quotations are invited for the minor fabrication job as per enclosed Annexure-I.
2. No insurance policy is required as no material (FIM) is issued to supplier.
3. Taxes shall be quoted separately. The above work is required for R & D works.
4. PAN and GST nos. of suppliers are mandatory along with offer.
5. The quotations must reach Head, Division of Remote Handling & Robotics by **15/02/2018** and must be sent in a sealed envelope super-scribed with the above reference number and due date given above.
6. The address on the envelope should read:
The Head,
Division of Remote Handling & Robotics
Bhabha Atomic Research Centre
North site, Trombay, Mumbai-400 085.
7. The fabrication work shall be subject to inspection by our engineer. The finished component shall not be dispatched prior to approval by our engineer at bidder's works. Necessary inspection facilities should be provided to our engineers during fabrication at bidder's premises.
8. The bidder shall deliver the finished components after approval by our engineer, within 8 weeks from the date the firm purchase order issued to the bidder.
9. Head, Division of Remote Handling & Robotics, BARC, reserve the right to accept/reject any or all quotations without assigning any reason.
10. Supplier should clearly indicate the delivery period.
11. Incomplete offer/ offer received after due date will not considered.
12. Quotations should be preferably neatly typed and corrections are not acceptable.

Encl.: as above

Director, RDDG & Head, Division of Remote Handling & Robotics

Annexure-I

(A) Scope of work:

Replacement of existing faulty tube lights, flood lights, ceiling fans, exhaust fans, wall mounted fans and MCB distribution boards in RCM workshop, RCnD Complex as per as per following. The work is divided in 7 packages. Specifications are covered in respective appendix no.

Pack-age no.	Description of work	Qty	Applicable Appendix
1	Replacement of tube lights with LED Tube lights which includes: •Removal of old fixture and safe disposal, •Re-installation new fixture, •Checking, Connection and Commissioning of each circuit, •Maintenance/ replacement components of circuit if found faulty, •Marking of circuit no. on tube light and switch.	170	A
2	Replacement of Wall mounted fans with similar size wall mount fans which includes: •Removal of old fan and safe disposal, •Re-installation new fan, •Checking, Connection and Commissioning of each circuit, •Maintenance/ replacement components of circuit if found faulty, •Marking of circuit no. on fan and switch.	10	B
3	Replacement of flood lamps with LED flood lights which includes: •Removal of old halogen lamps and safe disposal, •Installation new LED Flood light, •Checking, Connection and Commissioning of each circuit, •Maintenance/ replacement components of circuit if found faulty, •Marking of circuit no. on light and switch.	2	C
4	Replacement of Ceiling fans with similar size ceiling fans which includes: Removal of old fan and safe disposal, •Re-installation new fan with increased hanging rod length, •Checking, Connection and Commissioning of each circuit, •Maintenance/ replacement components of circuit if found faulty, •Marking of circuit no. on fan and switch.	10	D
5	Replacement of Exhaust fans which includes: Removal of old exhaust fans and safe disposal, •Re-installation new exhaust fans, •Checking, Connection and Commissioning of each circuit, •Maintenance/ replacement components of circuit if found faulty, •Marking of circuit no. on fans	6	E
6	Replacement of MCB distribution boards of Power and control circuits which includes: •Removal of old MCB and safe disposal, •Re-installation new MCB, •Checking, Connection and Commissioning of each circuit, •Maintenance/ replacement components of circuit if found faulty, •Marking of circuit no. on MCBs	3	F
7	Securing, Re-routing and casing of network cabling.	40Mtr	G

Important Notes:

- ❑ ***The lights and fans are located at various heights in the workshop and associated rooms. The supplier shall make his own arrangement for safe approach and working conditions.***
- ❑ ***Supplier shall arrange all the consumable such as PVC insulated copper wire, insulation tape, screws, nuts, casing etc.***
- ❑ ***All the items shall be ISI mark.***
- ❑ ***Standard industrial practices shall be followed in procurement and workmanship.***
- ❑ ***Before submitting the offer, supplier may inspect the site located at RCM workshop, RCnD Complex for assessment of work at BARC with prior intimation to Shri. A. K. Bist, DRHR, BARC, Trombay, Mumbai-400 085 (Tel. No. 25591890) (For making necessary arrangements for entry permit)***

(B) Security permission:

All BARC security rules will be applicable.

(C) General Specifications

1.0 Quality surveillance, inspection

- 1.1 All work covered shall be subject to quality surveillance / inspection by the purchaser or his authorized representative.
- 1.2 No Insurance policy is required for the material as the job is to be done by supplier's material.
- 1.3 Supplier shall issue the guarantee certificate for the period of one year from date of delivery for material quality and workmanship.

2.0 Delivery

- 2.1 The bidder shall finish the work after approval by our engineer within 3- months from the date of firm Work order is issued to the bidder.
- 2.2 Any delay which is attributable to contractor is liable to penalty @0.5% per week (Max 5%) to be imposed on the contractor.

3.0 Sub-Contract

- 3.1 The fabricator shall not sub-contract any or all the work without written consent from the purchaser. The fabricator shall be responsible to the purchaser for all work the sub-contractor of the fabricator, if allowed by the purchaser.

4.0 Payment

- 4.1 Payment will be made only after satisfactory completion of work and against submission of original bill in triplicate and advance stamped receipt.
- 4.2 Supplier is requested to fill up for the option for payment through ECS/RTGS with pre-stamp receipt at the time of payment.

5.0 Tax

- 5.1 Income Tax @ 2% and GST @1% will be deducted from your bill.

6.0 Confidentiality

- 6.1 No party shall disclose any information to any third party concerning the matters under this contract generally. In particular, any information identified as "Proprietary" in nature by disclosing party shall be kept strictly confidential by the receiving party and shall not be disclosed to any third party without the prior written consent of the original disclosing party.

This clause shall apply to sub-contractors, consultants, advisors or the employees engaged by a party with equal force.

- 6.2 "Restricted information" categories under section 18 of the Atomic Energy Act,1962 and "Official Secrets" under section 5 of the Official Secrets Act, 1923:-
Any contravention of the above mentioned provisions by any contractor, sub-contractor, consultant, advisor or the employees of the contractor will invite penal consequences under the aforesaid legislation.
 - 6.3 Publication against use of BARC's name without permission for publicity purpose:-
The contractor or sub-contractor, consultant, advisor or the employees engaged by the contractor shall not use BARC's name for any publicity purpose through any public media like Press, Radio, T.V. or Internet without the prior written approval of BARC.
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Appendix-A

Package-1 (Replacement of existing faulty tube lights with LED Tube lights)

Qty: 170 Nos.

Specifications of LED Tube lights.

LED Tube Lights –4 feet (Suitable to replace T-8 tube lights)

- Applications: Offices/ Workshop, Can be used for retrofits as well as new installation.
- Tubes shall be manufactured with SMD design with latest technology.
- Shall be with Heat sink with high surface area for quick heat dissipation.
- Shall be with no UV or RF interference
- Free from toxic substance.

Electrical Data:

- Input Voltage: AC 65V-265V/ 47Hz-55Hz
- Power Factor: > 0.9
- Driver Efficiency: >0.85
- Surge voltage: up to 2.5 KV

Photometric Characteristics:

- Power Consumption: 20W
- Color Temperature: 5700 – 6500K
- Lumen Output: 1600 lm
- Illumination at Distance 1m, 2m, 3m,: 586 lux, 278 lux, 141 lux
- Beam Angle: 120

General:

- Installation: Indoor
- Material: Aluminum Alloy + Transparent PC Cover
- Working temperature : up to 50 DegC
- Dimensions: 26mm Dia X 1195mm long without needle point
- Net weight: less than 200 gm
- Effective life time 30,000 hours – 70% lumen maintenance
- Colors: Cool White
- Warranty:2 Years

Note: approval of Sample is must before the bulk installation.

Appendix-B

Package-2 (Replacement of Wall mounted industrial fans /Air Circulators)

Qty: 10 Nos.

Specifications of Wall Mounted industrial fans (Air Circulators).

Fan size –600mm

- Applications: Offices/ Workshop,
- Aluminium alloy one piece blade
- Double ball-bearing 900 oscillation
- Sturdy close-mesh guard for finger protection.
- Powerful heavy-duty motor Electrical Data:
- Input Voltage: AC 250V
- Frequency: 50Hz
- Power Consumption: 180W
- Speed: 1440 rpm
- Phase: Single
- Air delivery: 250m³/min
- Blades: 3
- Speed:1
- Sweep: 600mm
- Installation: Indoor
- Material: Aluminum Alloy + Close mesh
- Working temperature : up to 50 DegC
- Effective life time 30,000 hours
- Colors: Gray
- Warranty: 2 Years

Note: approval of Sample is must before the bulk installation.

Package-3 (Replacement of flood lamps with LED flood lights)

Qty: 2 Nos.**Specifications of LED flood lights.**

1. Application: Workshop, Indoor
2. Average Life Hours : 30000
3. Color : Grey
4. Mounting : Clamp
5. Beam Angle: 120°
1. Color Rendering Index : 70
2. Color Temperature Kelvin : 5700
3. Color Text : Day White
4. Dimension, MM : 269.5 x 201.5 x 37.8
5. Input Voltage Ac : 220-240
6. IP Rating : IP65
7. Shape : Square
8. Weight Kg : 2
9. Lumens : 6000
10. Material Type : Metal
11. Power Factor : 0.9
12. Power Watt : 70
13. Product Type : Led
14. Warranty : 2 Year

Note: Approval of Sample is must before the bulk installation.

Package-4 (Replacement of Ceiling Fans)**Qty: 10 Nos.****Specifications of Ceiling Fans.**

a. Certification :	BEE 5 star rating
b. Sweep :	1200 mm
c. Nominal input watts	50 Watts
d. Rated Voltage	230 V.
e. Air delivery at rated voltage	>210 cmm
f. Service Value	≥ 4
g. Down rod length	as per site condition
h. Colour	White

Note:

1. Approval of Sample is must before the bulk installation.
2. All performance parameters to comply as per is 374 : 1979 and amendments
3. BEE 5 star ceiling fan to be supplied with all the required accessories such as capacitor, down rod, canopies, shakle blades, nut-bolts, etc.

Package-5 (Replacement of Exhaust fans)

Qty: 6 Nos.**Specifications of Exhaust Fans.**

1. Body colour: Grey
2. Finish: Metallic
3. Blade finish: Metallic
4. Blade design: Aerodynamically designed & Balanced Blade
5. Weight (kg): 2.5 (not more then)
6. Air delivery(m3h): 510
7. Speed (RPM): 1350
8. Noise Level (dB): 40-45
9. Sweep size (mm): 300 mm
10. No. of blades: 3
11. Guard: Spokes gore finger protection
12. Motor speeds : 1
13. Motor type: Normal Speed
14. Warranty: 2 Years
15. Power : 40 Watts
16. Rated Voltage: 230 Volts
17. Rated Frequency: 50 Hertz

Note:

1. Approval of Sample is must before the bulk installation.

Package-5 (Replacement of Distribution Boards)

Qty: Light Distribution Board (LDB): 1 No.
Power Distribution Board (PDB): 1 No.
AC distribution Board (ACDB): 1 No.

Type of MCB	LDB (Nos.)	PDB(Nos.)	ACDB(Nos.)
Single Phase 6A (1P)	30	0	0
Single Phase 20A (1P)	0	30	12
ELCB 30mA	3	3	3
Ph +N MCB 63A (2P)	3	3	3
3Ph+N 63A (4P)	1	1	1

Box Specifications:

1. Application: Suitable for Residential & Industrial use
2. Conformity: IEC 61439-3, IS:13032 & IS:8623
3. Size: Suitable for site & load condition.

MCB Specifications:

1. Application: Suitable for Residential & Industrial use
 2. Conformity: IS / IEC 60898 – 1
 3. Type: C
 4. Distribution: Suitable for site & load condition.
- Rated Current (In) A: 0.5 - 63
 - Rated Voltage (Ue) V~: 240/415
 - Rated Frequency (f)Hz: 50
 - No. of Poles (Execution) 1P, 1P+N, 2P, , 3P+N,
 - Rated Short Circuit Breaking Capacity kA: 10
 - Magnetic Release Setting : (5-10)In
 - Rated Insulation Voltage (Ui) V: 660
 - Rated Impulse Voltage (Uimp) kV: 4
 - Electrical / Mechanical Endurance (no. of operations)
 - <32A: 20000
 - >32A: 10000
 - Ambient Working Temperature (°C):-5°C to 55°C
 - Terminal Capacity (max) sq.mm: 25
 - Vibration: g 3
 - Shock:40mm free fall
 - Protection Class: IP-20
 - Installation Position: Vertical / Horizontal
 - Mounting: Clip on DIN Rail: (35mm x 7.5mm)
 - Case & Cover: Moulded, flame-retardant thermoplastic material

Appendix-G

Package-5 (Re-Routing of Network cables in RCM hall)

Qty: Routing Length: 40Mtr.

1. Providing the plastic casing as per the bunch size of cables.
2. Re-routing the cable as per the site condition and industrial practices.
3. Providing the casing for the branch routes.
4. Aesthetics shall be considered for deciding the bunching and routing.