

**Government of India
Bhabha Atomic Research Centre
Beam Technology Development Group
Mumbai – 400085**

Ref: BTDG/ATLAF/WORKS/AG/MF/2022/ 45087

18 May, 2022

To,

To whom it may concern

Sub: Supply, installation, testing and commissioning of electrical system for Diode pumped solid state Dye lasers

Invitation of Quotations

DUE DATE: May 30, 2022

Dear Sirs,

1. Quotations are invited for the supply and installation job as per the enclosed job details.
2. The quotation must be submitted on the printed letter head of the company and should contain PAN and GST numbers; else the quotation shall be rejected.
3. The quotations must reach **Director, Beam Technology Development Group** through **Indian Post** by **May 30, 2022** and must be sent in a sealed envelope **superscribed** with the above reference number, subject and due date given above.
4. The address on the envelope should read
(Attn. Anchal Gupta)
To,
Director,
Beam Technology Development Group
BARC, Mumbai - 400 085.
5. The on-site installation job will be carried out at Prafpul Building, South Site, BARC, and will be subjected to intermediate inspection by our engineer.
6. The contractor's persons should have valid PVC as on the date of submitting the quotation. A copy of the PVC shall be enclosed in the quotation. The contractor should have valid PWD electrical contractor license and all technicians should have valid wireman license.
7. Director, Beam Technology Development Group, BARC reserves the right to accept or reject any or all quotations without assigning any reason.
8. For any further clarification Anchal Gupta (Tel: 91-22-25597414) may be contacted.

Yours faithfully,

Anchal Gupta
f Director

Beam Technology Development Group

Encl: One (Job details)

Job Specifications

Supply, installation, testing and commissioning of electrical system for Diode pumped solid state Dye lasers

An electrical system for supply of 3 phase power to the 6 nos of Diode pumped solid state dye laser units is to be installed in a clean room laser facility. Each diode laser has its own power supply rack which consists of power supply unit and a control unit. This rack will be installed beside the laser table housing the diode laser. Laser cooling is provided by a 3TR capacity chiller unit to be installed outside the laser room. The detailed job description is as follows.

1. Supply & installation of 100A TPN SFU with Enclosure and a suitable size MS frame.
2. Supply, installation, testing & commissioning of 3.5 C x 35 sq mm PVC armoured aluminium cable (35 mtrs) with end termination at both ends using required size metal single compression Cable glands, copper crimping lugs, etc. One end of the cable has to be connected using suitable arrangements to a 300A busbar system installed above false ceiling of laser area. The other end will be terminated in 100A TPN SFU enclosure to be mounted on the wall. Cable has to be laid in cable trays and properly dressed.
3. Installation, testing & commissioning of Legrand make 8-way VTPN DB, IP-43 with metal door with all incoming/outgoing MCCB/ TP/SP MCBs, supply and installation of a suitable size MS frame for DB, dressing and termination of all incoming/outgoing cables/wires/bare earth wire using required size metal compression cable glands, lugs, etc. A suitable size 3.5 C x 35 sqmm PVC armoured aluminium cable will laid and terminated between the 100A TPN SFU and the 8-way VTPN DB (incomer).
4. Laying and termination of 6 nos of 4C x 2.5sqmm flexible copper cable between 8-way VTPN DB (outgoing) and power supply racks of each laser unit. Cables are to be routed and dressed inside aluminium channels.
5. Installation, testing & commissioning of Legrand make 12-way SPN DB, IP-43 with metal door with all incoming/outgoing TP/SP MCBs, supply and installation of a suitable size MS frame for DB, dressing and termination of all incoming/outgoing cables/wires/bare earth wire using required size metal compression cable glands, lugs, etc.
6. Supply, installation, testing & commissioning of 4C x 10 sq mm PVC armoured copper cable (25 mtr) with end termination at both ends using required size metal single compression Cable glands, copper crimping lugs etc. One end of the cable has to be connected using suitable arrangements to the supply feeder inside the power distribution panel. The other end has to be terminated inside 12-way SPN DB.
7. Laying and termination of 3 nos of 4C x 2.5sqmm flexible copper cable between 12-way SPN DB (outgoing) and chiller units. Cables are to be routed and dressed inside casing capping.
8. Supply & installation of 8 SWG bare copper earthing wire (70 mtr) for SFU/VTPN DB etc including end connections.

9. Supply & installation of 12 SWG bare copper earthing wire (50 mtr) for SFU/VTPN DB etc including end connections.
10. Supply & installation of 38/40 x 20/40 mm Casing capping (20 mtr)
11. Installation of 100 x 50 mm powdered coated aluminium channel with cover plate (20 mtr)
12. Interfacing laser trigger with the master trigger generation system. This involves installation of 12 nos of optical fibre cables (each fibre length is approx 75 mtrs) from master trigger panel in the control room to the diode laser control unit inside power supply rack. The fibres have to be laid in covered aluminium channels inside cable trays installed above laser area false ceiling. From the false ceiling to the panel, flexible silicon conduits will be used for routing.
13. Laying and dressing of CAT-6 UTP cable (35 mtrs) from equipment to control panel inside control room through the cable trays above false ceiling.
14. Interfacing of DPSS laser head, Power supply & control unit and chiller unit. It involves routing of power and control cables from the power supply and control unit to the laser head and chiller unit, drilling of holes in laser enclosure for cable entry, dressing and termination.

General terms and conditions

1. The supplier has to specify in his quotation job wise distribution of prices.
2. The installation work shall be subjected to inspection by the purchaser or his authorized representative and the work shall be conducted under their supervision and to the full extent of their satisfaction.
3. All tests shall be carried out in presence of the Site Engineer. The contractor shall maintain proper records of all the inspection and testing carried out and copies of which shall be submitted to the engineer - in - charge for retention & records.
4. In case any defect is found in the finished jobs or if they do not meet the specification the same will be rejected and has to be corrected by the manufacturer.
5. The workmanship should be of high quality. The contractor should have valid PWD electrical contractor license and all technicians should have valid wireman license.
6. The supplied and installed items shall have a warranty of one year from the date of delivery.
7. The fabrication and installation job shall be completed within 12 weeks after the order is placed. No extension shall be granted.