

**GOVERNMENT OF INDIA
BHABHA ATOMIC RESEARCH CENTRE
CONTROL INSTRUMENTATION DIVISION**

Trombay, Mumbai - 400 085

Ref: BARC/CnID/AKS/2017/241

May 15, 2017.

16

Sub: Minor Fabrication – Invitation of Quotation for fabrication, supply & installation of items as indicated in para 13 below.

Dear Sir / Madam,

1. Quotations are invited for the minor fabrication job as given in para 13 below.
2. Bidder shall quote for fabrication of these items as per technical specifications and brand new material.
3. Material shall be rejected if found made from old/ scrap/ re-used material.
4. Taxes and excise duties shall be quoted separately.
5. Supplier should have security vetting of his firm and manpower with valid PVC as the work involve installation of the items inside BARC at strategical locations.
6. Bidder should have previous experience of carrying out similar jobs inside BARC Trombay.
6. The quotation must reach, **Head, Control Instrumentation Division** by **26.05.2017** and **must be sent in a sealed envelope super-scribed with the above reference number and due date given above**. The quotation may be sent by speed post / registered post only. Quotation should also indicate **CST No. / VAT No. / PAN No. / Sale Tax Registration No. and Service Tax Registration No. of the party.**

7. The address on the envelope should read:

The Head, Control Instrumentation Division,
Bhabha Atomic Research Centre,
Trombay, Mumbai - 400 085.

Attn: Shri A. K. SHARMA, SO/F

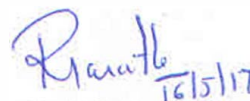
8. The bidder shall have to take an insurance policy against any material issued to him by the purchaser.
9. Quotation shall accompany details specifications and brouture of the material to be supplied.
10. The fabrication work shall be subject to inspection by our engineer. The finished components shall not be despatched prior to approval by our engineer, at bidder's works. Necessary inspection facilities should be provided to our engineers during a fabrication at bidder's premises.
11. The bidder shall deliver the finished components after approval by our engineers, within ONE MONTH from the date of the firm purchase order issued to the bidder. The finished components and the scrap from the free issue material shall be delivered by the bidder at Electronics & Safety Complex, CnID, BARC, TROMBAY, BOMBAY-85.

12. Head, Control Instrumentation Division, BARC, reserves the right to accept/reject any or all quotations without any reason.

13. Minor fabrication, supply & installation of following items:

As per annexure- A enclosed

Encl: Technical Specifications


16/5/17

Head CnID

Bhabha Atomic Research Centre
For and on behalf of President of India

Annexure 'A'

SCOPE OF WORK FOR MINOR FABRICATION

SUPPLY:

- | | |
|---|---------------------|
| 1. 1" DIA. HDPE CONDUIT | :1200M |
| 2. LIU 12 PORT WITH PATCH, PANEL & PIGTAIL: | 01 NOS |
| 3. LIU 4 PORT WITH PATCH, PANEL & PIGTAIL | : 02 NOS |
| 4. POE NETWORK SWITCH, 8 PORT | : 04NOS (D-LINK) |
| 5. 4 CHANNEL DVR WITH 1TB HDD | : 02 NOS |
| 6. CCTV CABLE, (3+1) | : 1 ROLL OF 90M FRP |
| 7. FRP JUNCTION BOX WITH POWER SUPPLY | : 03 NOS |
| 8. 1.5" DIA, GI CONDUIT | : 20 M |
| 9. EM LOCK WITH POWER SUPPLY | : 02 NOS |
| 10. WIRELESS REMOTE SWITCH | : 02 NOS |
| 11. RE-INFORCED PVC CONDUIT, 1" DIA" | : 30M |
| 12. RE-INFORCED PVC CONDUIT, 1.5" DIA" | : 30M |
| 13. WALL MOUNT ENCLOSURE FOR CARD READER | :02 NOS |
| 14. CAT-6 STP (OUTDOOR) CABLE | :300 M |
| 15. G.SHDSL BRIDGE/ROUTER TC-506A | : 01 PAIR |

INSTALLATION & COMMISSIONING:

- | | |
|--|-----------|
| 16. LAYING & CLAMPING FO CABLE, HDPE CONDUIT, POWER & CAT 6 CABLE | : 3000 M |
| 17. LIU WITH SPLICING & TERMINATION | :02 NOS |
| 18. CARD READER, EM LOCK/ LATCH ALONGWITH ASSOCIATED CABLING | : 02 NOS |
| 19. FIXED CAMERA ALONGWITH BRACKET, JUNCTION BOX, POWER SUPPLY ETC. | : 02 NOS |
| 20. PTZ DOME CAMERA ALONGWITH BRACKET, JUNCTION BOX AND POWER SUPPLY | : 03 NOS. |
| 21. RE-WIRING OF DDNSS SYSTEM | : 03 NOS |
| 22. VIDEO WIRELESS UNITS ALONGWITH JUNCTION BOX AND POWER SUPPLY | : 02 NOS |
| 23. ROAD CUTTING AND RE-SURFACING AT HILL | : 20 M |



Technical Specifications:

A) **Light Interface Unit (LIU):**

B) Product	: -	Wall Mounted / JB Mount Fiber Optic Terminal Box 12 and 4 Port
C) Colour	: -	Grey or Black
D) Suitable Adaptors	: -	SC And LC

2) **Network Switch:**

A) Make /Model	: -	CISCO SF100D-08P
B) Switching Capacity	: -	1.6 GBPS
C) Forwarding Capacity	: -	1.2 MPPS
D) Ports	: -	8 RJ 45 Connectors for 10BASE-T/100BASE-TX
E) POE	: -	4 PoE ports with 33.12W dedicated power budget
F) Dimension	: -	6.29 x 1.18 x 5.05 inches (160 x 30 x 128.5 mm)
G) Unit Weight	: -	1.2 lb. (0.545 kg)
H) Power	: -	SF100D-08P, SG100D-8P: DC 48V. 1.25A

3) **Wireless remote switch:**

A) Operating Voltage	: -	5V/12V/24 V
B) Max Current	: -	10 A
C) Frequency	: -	Around 300 – 400 MHz
D) Operating distance	: -	8-10 ft.

Should be able to open door latch remotely.

4) **EM Lock with Power Supply:**

A) **EM Lock**

• LED Indicator	: -	Red LED
• Input Voltage	: -	12V
• Holding Force	: -	600 Lbs
• Weight (Magnet)	: -	1.1 Kg
• Dimension (Lock)	: -	250 x 42 x 25 mm
• (Magnet)	: -	180 x 38 x 11 mm

B) **Power Supply:**

• Input	: -	200V AC – 300V AC
• Output	: -	12V / 4 Amp.
• Power LED	: -	Red
• Mounting	: -	Wall Mounting
• Dimension	: -	132 x 62 x 35 mm
• Terminals	: -	4 nos.
•		

5) Digital Video Recorder:

A) Operating System	:-	Embedded Linux
B) Video Standard	:-	PAL/NTSC
C) Video Compression	:-	H.264 (High Profile)
D) Inputs	:-	4 BNC
E) Recording Rate	:-	4 channels 720P@100/120 fps
F) Audio Input	:-	1 channel, RCA
G) Audio Output	:-	1 channel, RCA
H) Record Mode	:-	Manual / Schedule / Motion Detection
I) Hard Disk	:-	1 SATA Port , upto 6TB
J) Resolution	:-	1920x1080; 1280x1024; 1024x768; 800x600
K) OSD	:-	Camera Title; Time stamp; Video loss; Motion Detection ; Recording]
L) PTZ Control	:-	RS 485, Support Multiple PTZ Protocol
M) Ethernet	:-	RJ 45 10M / 100M Adaptive Ethernet Port
N) Dimension	:-	255(W)x209.5(D)x45.4(H) MM

6) CCTV Cable:

A) Make	:-	Polycab
B) Cable Size	:-	3C+1 (3 core power and 1 core co-axial)
C) No. Of Strands	:-	1
D) Cable covering	:-	Unarmoured
E) Power Cable Size	:-	0.5 mm
F) Co-axial Braiding	:-	Alu. Alloy
G) Material	:-	Bare Copper

7) GI Conduit:

A) Size (ID)	:-	1.5"
B) Material	:-	Galvanized Iron
C) Gauge	:-	16mm
D) Thickness	:-	1.57 mm

8) HDPE PVC Pipe:

A) Size (ID)	:-	25 mm
B) Colour	:-	Black
C) Weight	:-	Light
D) Thickness	:-	5 mm

9) Re-inforced PVC Flexible Conduit:

A) Colour	:-	Grey
B) Description	:-	Spiral Re-inforced PVC Conduit
C) Benefits	:-	Flexible Conduit with Smooth Bore, Spiral PVC Reinforced and Flexible PVC Cover
D) Size	:-	25mm – 38 mm
E) Operating Temperature:	-	20°C to 70°C
F) Material	:-	Polyvinylchloride

10) CAT-6 STP (Out-door)

A) Conductor	:-	Solid Bare Copper
B) Size	:-	23 AWG
C) Aluminum Foil	:-	Yes
D) Rated Temperature	:-	70°C
F) Rated Voltage	:-	60 V

11) Lan Extender:

1 pair / 2 pair G.SHDSL Bridge / Router

Description

TC-506A is a high-speed product of Techroutes G.SHDSL series.

FEATURES

- Easy configuration and management with password control for various application Environments
- Efficient IP routing and transparent learning bridge to support
- Broadband Internet services
- VPN pass-through for safeguarded connections
- Fully ATM protocol stack implementation over SHDSL
- PPPoA and PPPoE support user authentication with PAP / CHAP
- SNMP management with SNMPv1 / SNMPv2 agent and MIB II
- Getting enhancements and new features via firmware upgrade
- Built-in 4-port 10/100Mbps switch
- Dying Gasp circuit built-in
- One pair or Two pair DSL
- WAN Port ping Disable /Enable
- Support VLAN 802.1Q

G.SHDSL Specification

- Downstream and upstream symmetrical data rates up to 11.4 Mbit/s in Annex A, B, F, G mode with two pair DSL line
- ITU G.991.2 Annex A, B, F, G
- Fixed/ Auto rate negotiation : compliant G.994.1
- STU-C/STU-R mode selectable
- Impedance: 135 ohm
- Coding: TC-PAM, compliant to ITU-T G.991.2 (G.SHDSL)
- Performance monitoring: (errored seconds, severely errored seconds, unavailability seconds)
- Single pair or Two pair selectable
- SNR /Attenuation Value calculation

Physical interfaces

- 4 ports RJ45 for 10/100Mbit/s Ethernet LAN connection
- 2 RJ-11 port for G.SHDSL connection
- 1 console port for local configuration and management

SOFTWARE SPECIFICATIONS

ATM Protocol

- ATM adaptation layer type 5 (AAL5)
- VC multiplexing and LLC encapsulation
- Multi-protocol over AAL5 (RFC 1483/2684 bridged and routed PDU)
- Classical IP over ATM (RFC 1577 with MTU = 1500)
- Up to 12 PVCs
- ATM QoS CBR, UBR, VBR, VBR-rt support
- UNI 3.1/4.0 PVC
- I.610 OAM F5 loopback

PPP Support

- PPP (RFC 1661)
- PPP over AAL5 (RFC 2364)
- PPP over Ethernet (RFC 2516)
- User authentication with PAP/CHAP

Routing Capability

- Support IP/TCP/UDP/ARP/ICMP protocols
- IP routing with static routing and RIPv1/RIPv2 (RFC1058/2453)
- Network address translation (NAT/PAT) (RFC1631)
- DNS relay and caching (RFC1034/1035)
- DHCP server (RFC2131/2132)

Bridging

- IEEE 802.1D transparent learning bridge
- Up to 1K MAC learning addresses

Configuration

- Local console (RS232)
- Telnet access
- Web-based GUI (HTTP)

Network Management

- Web-based GUI for express setup, configuration and management
- Menu-driven interface for local console and Telnet access
- Password protected management and access control list for administration
- SNMP management with SNMPv1/SNMPv2c
- Software upgrade via TFTP server

Hardware Specification

- Power Supply External power adapter 12V DC, 1000mA
- LAN Port RJ45 x 4
- WAN Port RJ11 x 2
- Console Port DB9-Female x 1
- Operating Temperature 0° to 60°C
- Storage temperature -10° to 90°C
- Housing plastic case
- Dimension 220mm x 150mm x 40mm (L x W x H)

Page 6/6

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