



चेन्नई पोर्ट ट्रस्ट  
**CHENNAI PORT TRUST**

**MECHANICAL AND ELECTRICAL ENGINEERING  
DEPARTMENT**

**No. MEE/EC3/ 070/2018/DCME(EC/OS)**

**BUDGETARY OFFER IS INVITED FOR SUPPLY,INSTALLATION, TESTING AND COMMISSIONING AND HANDING OVER OF TWELVE NUMBERS IP BASED HD 3MP(MINIMUM) PTZ OUTDOOR TYPE DAY &NIGHT COLOUR IR DOME CAMERA COMPLETE WITH ALL ACCESSORIES AND TEN NUMBERS OF POINT TO POINT WIRELESS TRANSCEIVER COMPLETE WITH ALL ACCESSORIES ,TWO NUMBERS 42 INCH(MINIMUM) LED CCTV MONITORS COMPLETE WITH ALL ACCESSORIES ALONG WITH FIVE YEARS COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT AFTER COMPLETION OF ONE YEAR GUARANTEE PERIOD AT CHENNAI PORT TRUST.**

**THE OFFER MAY BE SENT TO THIS OFFICE ON OR BEFORE 19.09.2019 TO THE FOLLOWING ADDRESS.**

The Chief Mechanical Engineer,  
7<sup>th</sup> Floor, Centenary Building,  
Chennai Port Trust,  
No. 1 Rajaji Salai  
Chennai-600001

## **CHENNAI PORT TRUST**

**BUDGETARY OFFER FOR SUPPLY,INSTALLATION ,TESTING AND COMMISSIONING AND HANDING OVER OF TWELVE NUMBERS IP BASED HD 3MP(MINIMUM) PTZ OUTDOOR TYPE DAY &NIGHT COLOUR IR DOME CAMERA COMPLETE WITH ALL ACCESSORIES AND TEN NUMBERS OF POINT TO POINT WIRELESS TRANSCEIVER COMPLETE WITH ALL ACCESSORIES , TWO NUMBERS 42 INCH(MINIMUM) LED CCTV MONITORS COMPLETE WITH ALL ACCESSORIES ALONG WITH FIVE YEARS COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT AFTER COMPLETION OF ONE YEAR GUARANTEE PERIOD AT CHENNAI PORT TRUST.**

### **SCHEDULE 'A'** **TECHNICAL SPECIFICATION**

#### **1.0 GENERAL:**

Trust proposes to install twelve Numbers IP based HD 3MP(Minimum) PTZ Outdoor type Day &Night Colour IR Dome Camera , ten numbers Point To Point Wireless Transceivers and two Numbers 42 Inch(Minimum) LED CCTV Monitors complete with all accessories along with Comprehensive Annual Maintenance Contract for five Years for monitoring the movements at Coastal Road and Ambedhkar Statue as per ISPS requirements.

Tenderer shall visit the site and furnish their budgetary offers for the Supply, install and commission a Video Surveillance system as per the technical specification mentioned below to offer HD quality surveillance images.

#### **2.0 SCOPE OF WORK :**

##### **PART-I:**

- i) Supply, Installation testing, commissioning and handing over of 12 Nos. numbers IP based HD 3MP(Minimum) PTZ Outdoor type Day & Night Colour IR Dome Camera complete with Camera housing and camera mounting kit and all other accessories Including Camera Mounting structures.
- ii) Supply, Installation, testing, commissioning and handing over of 10 Sets of 100Mbps(min) point to point Transceivers complete with all accessories.
- iii) Supply, Installation, testing, commissioning and handing over of 8 Nos. of 8 Port Gigabit Manageable Switch complete with all accessories.
- iv) Supply, Installation, testing, commissioning and handing over of 2 Nos. of 24 Port Gigabit Manageable Switch complete with all accessories.

v) Supply, Installation, testing, commissioning and handing over of 1 No. 32 Channel (min) Network Video Recorder complete with all accessories.

vi) Supply, Installation, testing, commissioning and handing over of 4 Nos. of Image viewing unit complete with all accessories.

vii) Supply, Installation, testing, commissioning and handing over of 2 Nos. 42 inches(min) LED Monitor complete with all accessories.

viii) Supply, Installation, testing, commissioning and handing over of 1 No. of 5KVA UPS complete with all accessories for control room.

ix) Supply, Installation, testing, commissioning and handing over of 12 Nos. of 0.6KVA UPS complete with all accessories

x) Supply, Installation, testing, commissioning and handing over of 1 No. of 8 meters Tower complete with all accessories.

xi) Supply, Installation, testing, commissioning and handing over of 8 Nos. of 6 meters Tower complete with all accessories.

## **PART-II:**

### **COMPREHENSIVE MAINTENANCE CONTRACT**

- a) The Tenderer should enter into Comprehensive Annual maintenance contract for the period of Five years after the completion of guarantee period of one year. The Tenderer shall quote for maintaining the entire system offered for a period of five years including replacing of spares at free of cost after the guarantee period.

### **3.0 SALIENT FEATURES AND REQUIREMENTS:**

The system proposed shall have following salient features:

- i) The system shall be designed to work in the license free band width 5.825 to 5.875 GHz.
- ii) The Cameras shall be IP based and shall conform to ONVIF standards and UL Approved. **The quoted camera model should also be listed in the ONVIF Website.**
- iii) Each Camera shall be supplied along with accessories like Camera mounting GI Fixture with suitable base for Grouting
- iv) All the proposed RF Equipment's shall have ETA Approval (EQUIPMENT TYPE APPROVAL) issued by the WPC and a copy of the ETA indicating the make and model of the RADIO offered shall be furnished
- v) Tenderer shall supply and lay CAT 6 Network Cable wherever pointed

out by the Trust Engineer.

- vi) Tenderer should enter into a Comprehensive Annual Maintenance Contract with Trust for Five years for all the proposed supply of items

**Tenderer shall furnish offers for all items mentioned in the Schedule “A1” otherwise tenders will be treated as incomplete and will not considered for further evaluation.**

#### **4.0 TECHNICAL SPECIFICATION:**

Tenderers shall furnish Offers for all the item as per the detailed Technical specification mentioned below.

#### **4.1 CAMERAS WITH MOUNTING STRUCTURES: QTY: 12 Nos.**

Trust proposes to install twelve numbers Outdoor type IP based PTZ type IR Dome Camera in the new locations as per the technical specification given below in the following locations.

1. COASTAL ROAD ----- 6 Nos.(from INS Adyar North wall to CITPL)
2. COASTAL ROAD ----- 4 Nos. (from Gate No. 1 to BD entrance)
3. AMBEDKAR STATUE ---- 2 Nos.(with suitable tower)

#### **4.1.1 Outdoor type IP based HD 3MP Resolution PTZ type Day & Night Colour Dome IR Camera:**

**Make : HIKVISION / PANASONIC / BOSCH**

**Qty : 12 Nos.**

<b>Outdoor Application IP PTZ Camera with HD 3MP Resolution 16x Digital Zoom, Day/Night lens, WDR equipped with 500metres(min) IR</b>
Minimum Illumination : 0 lux
Wide Dynamic Range support equipped with 500 meters (min) range IR
Auto iris, Auto focus, Motorized 5.7mm-205mm(min) or better zoom lens
Automatic Gain Control, BLC, White balance: Automatic,3D Intelligent positioning function
Compression : Dual stream, H.264
Resolution & FPS Maximum Performance: Stream 1: 1920 x 1080 @ 25FPS and Stream 2: 720 x 576 @ 25FPS on two streams respectively at the same time
H264/MJPEG/MPEG4 video compression, smart tracking, Defog
Built-in Multi-zone motion detection, Electronic image stabilization
Unicast, Multicast, RTP, TCP, UDP, HTTP, IGMP, ICMP, DHCP, ONVIF etc. as per system requirement
10/100 Base-T Auto sensing, Half/Full Duplex (RJ45)
Support NAS, True WDR 120dB
Endless 360° pan and -15° to +90° tilt movement
Manual Pan/tilt speed up to 90° per second and preset speed up to 300° deg per second

300 preset programmable and preset image freezing capability
External audio Input and output: Required
At least One potential free alarm input, One Relay out
Built in Micro SD card slot to support up to 64GB storage for local recording
Power input to Camera /Camera Adopter : 230 V,50 HZ AC --SINGLE PHASE
Vandal resistant dome enclosure, IP66 rated, Built in heater and blower, wall mount. Enclosure should be of same make as that of camera
Operating Temp: 10° C to 50°C
Mount: Wall or pole or pendant
Humidity : 90% (Non-condensing)
Shall Comply with ONVIF, UL, CE and FCC
<u>PoE++ support:</u> The quoted cameras should work on both PoE & external power supply
<b>The offered camera model must be listed in the ONVIF websites.</b>

#### **4.1.2 CERTIFICATION:**

The Cameras Offered by the Tenderer shall be **UL Approved** and **conform to ONVIF S Standards (Open Network Video Interface Forum)** and for the product safety the camera shall comply with CE Regulations UL, EN and IEC Standards. The offered camera model must be listed in the ONVIF websites.

#### **4.1.3. CAMERA MOUNTING STRUCTURES:**

Aesthetically designed G.I.(Galvanized Iron) 2 Nos. Mounting structures as detailed below:-

- 1) Shall have a total height of 3000 mm(min).
- 2) Shall have suitable bottom plate welded to the GI pipe for grouting on the ground.
- 3) The GI pipe and other brackets welded to it shall Anodized to withstand the hostile environmental conditions.
- 4) The top of the pipe shall be closed with plate to prevent dust/water getting into the pipe.
- 5) The scope of work will also include installation of the mounting structures for all the cameras at the locations pointed out by Trust including construction of concrete pedestal for grouting/fixing the GI Structure.

#### **4.2 DETAILED TECHNICAL SPECIFICATION OF TRANSCEIVER:**

The Bidders shall propose a suitable RF Solution to carry the Video signals from Coastal Road and Ambedkar statue to centrally control room at Centenary building. (CVSS)

All the RF Equipment's supplied shall have ETA Approval issued by the

WPC and a copy of the ETA (EQUIPMENT TYPE APPROVAL) indicating the make and model of the proposed RADIO shall be furnished.

In case Direct Line of Sight is NOT there the bidder shall add suitable Galvanized MS Structural Towers / Repeaters of suitable height may be included after carrying out the survey of the site at their own cost and arrive the number of towers / Repeaters required if any.

The Tenderer shall mount the Cameras on GI Pole and to mount the Transceiver on the existing towers.

**100 Mbps(min) POINT TO POINT TRANSCEIVER:**

**Make : RADWIN/ CAMBIUM**

**Qty : 10 Sets.**

**Note: One set means one number at the remote location and one number at Centenary building/CVSS with all necessary accessories.**

**Transceiver (Point to Point) {Radio for Back haul link to interconnect base stations}**

<b>Sl. No.</b>	<b>Specification</b>
1	Each set supplied is to comprise of two independent links with antenna, cables, IDU & ODU
2	The individual System should comprise of Outdoor & Indoor equipment, antenna, cables (RF/IF) with connectors, system software and all other hardware & software required for operation, monitoring & configuration of the link. Note: No Integral IDU & ODU is accepted)
3	It shall be a carrier type Point-to-point Broadband Wireless Access radio system.
4	The system should be of reliable and field proven design and suitable for harsh environmental conditions.
5	The system shall support Flexible Quality of Services and concurrent use of IP, VoIP & Video.
6	Should work in unlicensed Frequency Band -5.825 to 5.875 GHz Multi-band in same radio unit. The entire frequency band should be covered in the same box.
7	Capable of Channel Bandwidth band-width selection of -10 MHz, 20 MHz, 40 MHz with 10 MHz steps.
8	Output power atleast 18 dBm or higher.
9	Should have an support for Di-pole/dual pole External Antenna with minimum gain of 21 dBi
10	Should support greater than 25,000 PPS in each radio.

11	Flexible asymmetric link supporting any up-link / down-link ratio.
12	Data Standard Compliance: IEEE 802.3 CSMA/CD.
13	Modulation Schemes: - BPSK, QPSK, supported upto 64-QAM with Forward Error Correction (FEC).
14	Transmit power control - within allowable EIRP
15	Built in Spectrum analyzer. Radio equipment should have site management and link management facility(software) for initial configuration, installation and maintenance.
16	Radio Technology – TDD OFDM
17	Capable of using in full duplex mode.
18	Should support TELNET/ SNMP based/ NMS with SNMP Agent: SNMP V1 Client, MIB II, Bridge MIB
19	VLAN Support: Based on IEEE 802.1Q protocol with support for transparent, tagged ( with support for VLAN overwrite) and untagged.
20	IP ToS/DSCP /DiffServ.
21	QoS classification based on IP address, Port number and Protocol type/ 4Que
22	Security : 128 -bit authentication (AES, WEP or better). The radios should have the capability for locking MAC address.
23	Should support AC, DC (-48) and solar power supply.
24	Should have facility to upgrade Software /firmware over the air.
25	Should support cumulative bandwidth of all the connected remote.
26	<b>Should support hop length of 50Km with net throughput upto 100 Mbps(min) full duplex (max)</b>
27	<b>Frequency Range</b> : 5.825 to 5.875 GHz. Base station must have mandatory over the air data encryption AES 128 (CCMP).

**4.3 8 PORT 10/100/1000 L2 Manageable PoE SWITCH: Qty : 4 Nos.  
MAKE: CISCO/JUNIPER/EXTREME**

Standards : IEEE 802.3, 802.3u, 802.3x and 802.3ab

Ports : 8 Port (min) RJ45 10/100/1000 +2 Mini-GBIC Ports +  
2Nos. Fiber port

Cabling type: Category 5 Ethernet or Better

**4.4 24 PORT 10/100/1000 L2 Manageable PoE SWITCH: Qty : 4 Nos.  
MAKE: CISCO/JUNIPER/EXTREME**

Standards: IEEE 802.3, 802.3u, 802.3x and 802.3ab

Ports: 24 Port (min) RJ45 10/100/1000 +2 Mini-GBIC Ports +  
2Nos.Fiber port

Cabling type: Category 5 Ethernet or Better

**4.5 NETWORK VIDEO RECORDER (NVR) Qty : 1 No.**

The proposed system shall be supplied with ONE number suitable 32 channel (min) NVR to view the camera image and shall be **ONVIF compliant** and shall have HDMI OUT,VGA OUT ,1 RJ45 10/100/1000 Mbps Ethernet Interface , Real time playback resolution of 3MP/1080P , Support Multi brand network cameras, and work in 230V AC +/- 10% ,Single phase along with 90 days storage capacity to view the Camera images separately.

The system shall be supplied with power chord, Audio/Video cables , necessary software etc.,

**4.6 IMAGE VIEWING UNIT: QTY: 4 Nos.**

**The proposed system shall be supplied with necessary image viewing unit to view the video signals from the locations connected vide Wire/wireless of a group locally at Traffic Control at Passenger Terminal, Fire Service, Commandant/CISF Room and CCTV Control Room.**

The Image viewing unit shall be supplied as per the detailed technical specification mentioned below.

<b>Client Workstation Configuration</b>
Workstation shall be of Dell, HP or IBM make
Intel® Xeon E3-1240 v3 3.4GHz or 4 <sup>th</sup> Generation Intel core processor
8GB (2x4GB) DDR3, 1600MHz, Non-ECC
Genuine Microsoft® Windows® 7 Professional 64 bit
1TB 7.2K RPM SATA Hard Drive for OS and VMS Applications
Network Interface – 10/100/1000 Mbps
Video Card – Dual 512MB NVIDIA Quadro NVS 310, to support 4MON, 4DP w/ 4DP to DVI Adapt
16X DVD+/-RW required DVD write software application
USB Optical Mouse and Keyboard
24” LED Monitor

**NOTE: Each IMAGE VIEWING UNIT shall be supplied along with one number 1.0 KVA rated power back up unit with SMF Batteries for two hours back up. The bidder shall furnish the make and model of the UPS in the Tender.**

**4.7. MONITORS :**

The scope of supply includes all materials required for the installation and commissioning of the monitors at Commandant/CISF Room , PFSO Room WQ-IV and CCTV control room like connecting signal cables ,power cables



etc.If any civil work has to be carried out of the installation the same has to be executed along with the materials by the tenderer.

**42 inches(min) Colour LED Monitor:  
Make : Sony / Samsung / Panasonic**

**Qty : 2 Nos.**

- a) Type of Monitor : Table Top Colour full HD LED Flat Monitor for Viewing CCTV Pictures.
- b) Size of Monitor : 42 inch (Min.)
- c) Colour System : PAL / NTSC
- d) Compatibility : To work along with the CCTV System and shall display live/recorded pictures as required.
- e) Display Resolution :1366 x 768 pixels (min.)
- f) Contrast Ratio : 800 : 1
- g) Brightness : 500 TV Lines (Min.)
- h) Video Inputs : VIDEO1,VIDEO2,S-VIDEO,RGB,DVI,VGA & HDMI
- i) Connectors : BNC (One IN and One Out)
- j) Power supply : 230 volts +/- 10%,50 Hz+/- 1% ,Single Phase AC.

The system shall be designed for higher endurance life and it shall be designed for 24x7 operation.

The Scope of work includes all necessary Connectors, Wall Mounting Kit, suitable TV Tuner unit for each system, AC power adapter.

**4.8 5 KVA UNINTERRUPTED POWER SYSTEM**

**Qty : 1 No.**

- 1. Capacity : 5 KVA(min)
- 2. Input Voltage : 160 V to 260 V AC Single phase
- 3. Output Voltage : 230 V +/- 1% AC
- 4. Output Frequency : 50 Hz +/- 1%
- 5. Output waveform : Pure Sine wave
- 6. Nature of cooling : Air cooling
- 7. Load power factor : better than 0.8 lagging

8. Type of battery : 12Volts/100Ah Sealed Maintenance free battery,  
Exide/Amararaja/Panasonic Make
9. Operating Voltage : 120 Volts D.C.(10 Nos. 12Volts, 65AH(min))
12. Protection : i. Over voltage, Short Circuit and overload at UPS output terminal  
ii. Under voltage at Battery terminal.
13. Indicators : I) Mains Presence  
i) Battery charging  
iii) Output Overload  
iv) Low battery voltage

The equipment should be supplied with above batteries, connectors, connecting cables, **suitable Battery Rack** and all other accessories.

#### **4.9 0.6 KVA UNINTERRUPTED SYSTEM**

**Qty: 12 Nos.**

- i) Capacity : 0.6KVA
- ii) Backup : 15 minutes(min)
- iii) Switching over time : From AC mains to UPS mode on power failures shall be 4 milliseconds
- iv) Input : 140V – 260V, 50 + 10% Hz, Single phase AC
- v) Output : 220V + 5%, 50+ 5Hz, Single phase in UPS mode at a load power factor of not less than 0.6% lagging
- vi) Distortion : Total harmonics distortion shall be 20% maximum Quasi sine wave.

#### **4.10 DETAILED TECHNICAL SPECIFICATION OF 8 METRES TOWERS:**

**Qty : 2 Nos.**

The tower shall be 3 legged self-supported safety tower. It shall be hot dip galvanized with painting and the civil foundation shall be as per IS standard according to the tower size.

Size. : Top 600mmX300mmX300mm.  
Bottom 750mmX750mmX750mm  
Cross section- 12mm MS rod by Cries cross.

Pipe size: GI 40mm(min) bottom  
Top 25mm(min)

**4.11 DETAILED TECHNICAL SPECIFICATION OF 6 METRES TOWERS:  
Qty : 8 Nos.**

The tower shall be 3 legged self-supported safety tower. It shall be hot dip galvanized with painting and the civil foundation shall be as per IS standard according to the tower size.

Size. : Top 600mmX300mmX300mm.  
Bottom 750mmX750mmX750mm  
Cross section- 12mm MS rod by Cries cross.

Pipe size: GI 40mm(min) bottom  
Top 25mm(min)

**5.0 INSTALLATION AND COMMISSIONING:**

The Cameras, Transceiver and all the other equipments supplied shall be Installed, tested, commissioned and handed over by using necessary instruments and tools which are to be supplied by the contractor as per the directions of the Trust officials at different locations at free of cost. The special tools instruments needed for regular servicing / maintenance working shall be supplied free of cost by the contractor. All the materials required for the installation and commissioning at site including the material for civil works required for Installation and commissioning of Towers and camera mounting structures shall be supplied by the Contractor.

Special care may be taken to prevent any damage to the Trust's property during installation and commissioning. The system as also the sub system shall be elegant pleasing in appearance and if necessary suitably painted to withstand saline atmosphere prevailing in the Port premises. The equipment shall be tested for satisfactory performance and the essential parameters shall be highlighted for periodic testing and services.

The Tenderer shall inspect the site and assess the requirement before furnishing their offerer.

**6.0. COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT:**

**a) CONTRACT PERIOD:**

The Comprehensive AMC order will be issued after completion of the guarantee period. Based on the performance of the First year Annual

maintenance Contract, the AMC order will be renewed every year till Five years as per the price quoted by the Tenderer.

The successful Tenderer after completion of the Guarantee period will enter into Five years Comprehensive Annual Maintenance Contract with Trust which will include supply of all spares for the replacement at free of cost. The AMC will cover all the materials supplied by the Tenderer in the subject project.

## **7.0 OTHER CONDITIONS:**

1) The firms are required to offer rates as per Trust's format "Schedule-A1" without fail and mention taxes and duties. Trust will not produce Form C or D.

2) Technical and Commercial condition shall be clearly furnish in the quotation. The offer shall mention the make and model of the equipment and shall accompany with the relevant technical leaflet.

3) The rate should be quoted as per unit.

4) The rate quoted should be maintained till the completion of supply and no upward price revision will be agreed to.

5) CME can accept or delete any of the items mentioned in Schedule-A1 and also the quantity mentioned is only provisional and it may either increased and decreased by 10%.

6) All the contractors should furnish their GST number.

7) For further details, the Tenderer shall contact the Dy.Chief Mechanical Engineer (EC&THC) at 7<sup>th</sup> floor of Centenary Building , Rajaji Salai, Chennai Port Trust, Opp. Reserve Bank of India, Chennai – 600 001. Phone No.25312707.

**CHIEF MECHANICAL ENGINEER  
CHENNAI PORT TRUST**



**BUDGETARY OFFER FOR SUPPLY,INSTALLATION ,TESTING AND COMMISSIONING AND HANDING OVER OF TWELVE NUMBERS IP BASED HD 3MP(MINIMUM) PTZ OUTDOOR TYPE DAY &NIGHT COLOUR IR DOME CAMERA COMPLETE WITH ALL ACCESSORIES AND TEN NUMBERS OF POINT TO POINT WIRELESS TRANSCEIVER COMPLETE WITH ALL ACCESSORIES ,TWO NUMBERS 42 INCH(MINIMUM) LED CCTV MONITORS COMPLETE WITH ALL ACCESSORIES ALONG WITH FIVE YEARS COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT AFTER COMPLETION OF ONE YEAR GUARANTEE PERIOD AT CHENNAI PORT TRUST.**

**SCHEDULE 'A1' (ITEM No.I)**

**SCHEDULE OF PRICES & QUANTITIES**

<b>Sl. No.</b>	<b>Description of work</b>	<b>Qty.</b>	<b>Unit</b>	<b>Rate/ Unit</b>	<b>Amount</b>
1.	Supply of Out-door type IP Based 3MP(min) Resolution PTZ type IR Dome Cameras complete with Camera housing and camera mounting structures as per Trust's specification.	12	Nos.		
1a	Installation and commissioning Charges	12	Nos.		
	Sub Total Rs.				
2.	Supply of 100 Mbps(min) Point to Point Transceiver Complete with all accessories as per Trust's specification	10	Sets		
2a	Installation and commissioning Charges	10	Sets.		
	Sub Total Rs.				
3.	Supply of 8 port Manageable Gigabit Switch as per Trust's specification.	8	Nos.		
3a	Installation and commissioning Charges	8	Nos.		
	Sub Total Rs.				
4.	Supply of 24 port Manageable Gigabit Switch as per Trust's specification.	2	Nos.		
4a	Installation and commissioning Charges	2	Nos.		
	Sub Total Rs				
5.	Supply of 32 Channel(min) Network Video Recorder complete with all accessories as per Trust's specification.	1	Nos.		
5a	Installation and commissioning Charges	1	Nos.		
	Sub Total Rs				

6.	Supply of Image viewing unit with all accessories as per Trust's specification..	4	Nos.		
6a	Installation and commissioning Charges	4	Nos.		
	Sub Total Rs				
7.	Supply, installation, testing commissioning and handing over of 5 KVA UPS complete with all accessories.	1	No.		
7a	Installation and commissioning Charges	1	Nos.		
	Sub Total Rs				
8.	Supply, installation, testing commissioning and handing over of 0.6KVA UPS complete with all accessories.	12	No.		
8a	Installation and commissioning Charges	12	No.		
	Sub Total Rs.				
9.	Supply of 42"(minimum) LED Monitor as per Trust's Specification	2	Nos.		
9a	Installation and commissioning Charges	2	Nos.		
	Sub Total Rs.				
10	Supply of 8 metres Tower complete with all accessories as per Trust's specification	2	Nos.		
10a)	Installation and commissioning Charges	2	Nos.		
	Sub Total Rs.				
11.	Supply of 6 metres tower complete with all accessories as per Trust's specification	8	Nos.		
11a	Installation and commissioning Charges	8	Nos.		
	Sub Total Rs.				
	GST @ ----% for Item No.1 to 9				
	GST @ ----% for Item No.10 to 11				
	GST @ ----% for Item No.1a to 11a				
<b>GRAND TOTAL (In Rupees)</b>					

**NOTE:**

1. **The tenderer shall furnish offer for all the items mentioned above else the offer will be treated as incomplete and will not be considered for further evaluation.**
2. If any statutory levy is required other than the one mentioned above, the same may be furnished separately along with the rate at which it is charged.
3. The prices offered shall include all transportation, insurance charges, etc.,
4. Trust will not furnish "C" or "D" form.

**CONTRACTOR**



**(ITEM NO.II)**  
**COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT FOR THE ABOVE**  
**AT CHENNAI PORT TRUST .**

**SCHEDULE 'A1'(ITEM NO.II)**  
**SCHEDULE OF PRICES & QUANTITIES**

<b>Sl.No.</b>	<b>Description of work</b>	<b>Qty.</b>	<b>Unit</b>	<b>Rate/ Unit</b>	<b>Amount</b>
1	<b>Annual maintenance contract for First year.</b>	1	No.		
2	<b>Annual maintenance contract for Second year.</b>	1	No.		
3	<b>Annual maintenance contract for Third year.</b>	1	No.		
4	<b>Annual maintenance contract for fourth year.</b>	1	No.		
5	<b>Annual maintenance contract for Fifth year.</b>	1	No.		
	<b>GST @ -----% for Sl.No.1 to 5</b>				
	<b>Grand Total Rs.</b>				

**(Rupees .....only)**

**NOTE:**

- (1) Tenders without quote for 5 years AMC after the completion of 1 year guarantee period will not be considered for evaluation.**
- (2) Tenderer shall furnish Offer for all the items mentioned above.
- (3) The total cost under Item No I and Net Present value(NPV) of Item No.II will be taken for the evaluation of financial merit.

**CONTRACTOR**