

कोलकाता पोर्ट ट्रस्ट
KOLKATA PORT TRUST
हल्दिया गोदी परिसर
HALDIA DOCK COMPLEX
AN ISO-9001: 2015 ORGANISATION

NO- GM (Engg.)/1049/179

DATE: 08.09.18

'REQUEST FOR SUBMISSION OF BUDGETARY OFFER'

SUB :- Enquiry for obtaining budgetary quotation for supply and installation of CCTV surveillance system in different locations including the operational areas under Haldia Dock Complex, Kolkata Port Trust at Haldia.

Haldia Dock Complex, Kolkata Port Trust intends supply and installation of CCTV surveillance system in different locations including its operational areas at Haldia. The system will comprise of 20 nos. IP fixed cameras, 80 nos. IP PTZ Dome cameras, 10 nos. IP Panoramic virtual PTZ cameras along with all other accessories with Three Years Comprehensive Annual Maintenance Contract after the Guarantee Period.

A technical estimate, in this regard, is enclosed herewith for ready reference Please.

Budgetary offers (as per the enclosed Annexure), along with comments / suggestions (if felt necessary), are invited from experienced / reputed firms, for the subject work, with in 30.09.2018.

Enclo :- A/a.


General Manager (Engg.)
Haldia Dock Complex, KoPT
08

Supply and installation of CCTV surveillance system in different locations including the operational areas under Haldia Dock Complex, Kokata Port Trust at Haldia

(BILL OF QUANTITIES)

PART A						
Sr. No.	Item description with specification	Unit	Estimated Qty	Budgetary Rate/Unit (Rs.) excluding GST	GST	Budgetary Rate/Unit (Rs.) including GST
1	Supply, installation, testing and commissioning of Out-door type IP Based fixed Cameras complete with Camera housing and camera mounting structures, as per Technical Specifications in section – II.					
	a) Supply	No	20			
	a) Installation, Testing and Commissioning.	No	20			
2	Supply, installation, testing and commissioning of Out-door type IP Based PTZ Dome Cameras complete with Camera housing and camera mounting structures, as per Technical Specifications in section – II.					
	a) Supply	No	80			
	b) Installation, Testing and Commissioning.	No	80			
3	Supply, installation, testing and commissioning of Out-door type IP Based 360 degrees panoramic camera, multiple viewing modes, virtual PTZ Cameras complete with Camera housing and camera mounting structures, as per Technical Specifications in section – II.					
	a) Supply	No	10			
	c) Installation, Testing and Commissioning.	No	10			
4	Supply, installation, testing and commissioning of Surge Protectors for protection of cameras and wireless units as per Technical Specifications in section-II.					
	a) Supply	No	110			
	b) Installation, Testing and Commissioning.	No	110			
5	Supply, installation, testing and commissioning of High Frequency					

	Interface Blocker for wireless units as per Technical Specifications in section-II.					
	a) Supply	No	110			
	c) Installation, Testing and Commissioning.	No	110			
6	Supply, installation, testing and commissioning of Wireless Transmitters & receivers with complete accessories, antennas, Power supply units, fitting arrangements, etc as per Technical Specifications in section-II.					
	a) Supply	Pair	110			
	b) Installation, Testing and Commissioning.	Pair	110			
7	Supply, installation, testing and commissioning of Network Video Recorder 32 CH as per Technical Specifications in section-II.					
	a) Supply	No	6			
	b) Installation, Testing and Commissioning.	No	6			
8	Supply, installation, testing and commissioning of Professional monitor 40" Colour LED as per Technical Specifications in section-II.					
	a) Supply	No	2			
	b) Installation, Testing and Commissioning.	No	2			
9	Supply, installation, testing and commissioning of Client PC as per Technical Specifications in section-II.					
	a) Supply	No	4			
	b) Installation, Testing and Commissioning.	No	4			
10	Supply, installation, testing and commissioning of ONVIF Video Management Software as per Technical Specifications in section-II.					
	a) Supply	No	4			
	c) Installation, Testing and Commissioning.	No	4			
11	Supply, installation, testing and commissioning of 4-POE Port Network switch as per Technical Specifications in section-II.					
	a) Supply	No	14			
	b) Installation, Testing and Commissioning.	No	14			

12	Supply, installation, testing and commissioning of 24 Port Network switch as per Technical Specifications in section-II.					
	a) Supply	No	6			
	b) Installation, Testing and Commissioning.	No	6			
13	Supply, installation, testing and commissioning of Racks 4U as per Technical Specifications in section-II.					
	a) Supply	No	4			
	b) Installation	No	4			
14	Supply and installation of misc items, like saddles, fitting materials, switch, sockets, screws, nuts, fasteners, jointers, sealants, accessories. Etc.					
	a) Supply	LS	2			
	b) Installation	LS	2			
15	Supply, installation, testing and commissioning of 5 KVA UPS as per Technical Specifications in section-II.					
	a) Supply	No	2			
	b) Installation, Testing and Commissioning.	No	2			
16	Supply and laying of Power Cable 3Cx 1.5sq.mm. as per Technical Specifications in section-II.					
	a) Supply	Mtrs	3000			
	b) laying	Mtrs	3000			
17	Supply and laying of CAT6 cable. as per Technical Specifications in section-II.					
	a) Supply	Mtrs	3000			
	b) laying	Mtrs	3000			
18	Supply and laying of Conduit pipe heavy duty to lay cables. as per Technical Specifications in Section-II					
	a) Supply	Mtrs	500			
	b) laying	Mtrs	500			
19	Supply and laying of OFC single mode 6 core cable armoured. as per Technical Specifications in Section-II					
	a) Supply	Mtrs	500			
	b) laying	Mtrs	500			
20	Supply and installation of IP66 Junction Box, as per Technical					

	Specifications in Section-II.					
	a) Supply	No	100			
	b) Installation	No	100			

Total Amount 'PART A'	
------------------------------	--

(In Words Rupees _____ only)

PART – B						
Sr. No.	Description of work	Unit	Qty.	Rate/Unit (Rs.)		Amount (Rs.)
				In Figure	In Words	
1.	Comprehensive Annual Maintenance Contract (CAMC) for a period of 3 years, after expiry of 2 years Guarantee period as per Technical Specification at Section-II.					
a.	1 st year CAMC	LS	1			
b.	2 nd year CAMC	LS	1			
c.	3 rd year CAMC	LS	1			
TOTAL AMOUNT 'PART B'						
TOTAL = TOTAL OF [(PART A) + (PART B)]						

TENDERER'S SIGN WITH SEAL

(In Words Rupees _____ only)

Note: The price offered should be firm and inclusive of all taxes & duties except Custom Duty and Service Tax which will have to be paid/reimbursed by MPT as applicable. However, any new tax imposed by State/Central Govt. will be reimbursed on producing documentary proof.

Note: 1. The evaluation will be based on the overall price quoted at PART A and NPV at PART B only.

2. Tenders without quote for 3 years CAMC after the completion of 2 year guarantee period will not be considered for evaluation

TENDERER'S SIGN WITH SEAL

SECTION – II

TECHNICAL SPECIFICATION

2.1 GENERAL

1. Haldia Dock Complex, Kolkata Port Trust proposes supply and installation of CCTV surveillance system in different locations including its operational areas. The new system will comprise of 20 nos. IP fixed cameras, 80 nos. IP PTZ Dome cameras, 10 nos. IP Panoramic virtual PTZ cameras along with all other accessories with Three Years Comprehensive Annual Maintenance Contract after the Guarantee Period.
2. Guarantee period of the CCTV Surveillance System shall be for a period of 2 years, following which an AMC of three years duration will be in place wherein two Technicians will have to be permanently posted at the Port premises. The Video recorder back-up capacity for all Cameras shall be for at least one month following which recorders will start overwriting
3. The Bidder shall take care of existing running wireless frequencies in circulating areas of installations and tune-up their radios accordingly so as to avoid any interferences or channel clashing with others i.e. to ensure that the system run trouble free.
4. All cameras will be connected on wireless network license free band. Power supply will be provided at base of high mast from which connectivity to be established for cameras and wireless devices and fixed Cameras will be installed at the Gates.
5. Cameras will be centrally connected with help of wireless radios point to point and by using repeaters for NON LOS (LINE OF SIGHT) using multipoint to point system.
6. Vendor shall keep minimum staff of two technicians during warranty and AMC period Replacement of batteries for UPS will be supplied by the Port and are not to be considered under AMC.

2.2 SCOPE OF WORK:

SUPPLY AND INSTALLATION

Supply, Installation testing, commissioning of Out-door type IP based Fixed and PTZ Cameras complete with housing and mounting kit and all other accessories Including Camera mounting structures, Transmitters & Receivers complete with all accessories, NETWORK VIDEO RECORDER- 32 CHANNEL, LED DISPLAY MONITOR 40", 32" LED

Monitor Client PC with viewer software, 4 POE Port 10/100/1000 MBPS switches, Network switches 24 Port 10/100/1000 MBPS switch, Surge Protectors, 5KVA UPS, Junction Boxes and laying of CAT6, Power cable and PVC heavy duty conduit pipes.

2.3 STANDARDS and CODES

The Camera's Fixed and PTZ and Network Video Recorders shall comply with ONVIF standards and shall be UL/CE and FCC Certified. The Cameras, NVR and the Software shall be from the same OEM. Wireless shall be UL/ CE and FCC Certified.

2.4 TECHNICAL SPECIFICATIONS:-

2.4.1 IP FIXED CAMERA

Make: Pelco/Panasonic /Bosch/Axis.

Total sensor pixels	2 Megapixel
Sensor Type	1/2.7" (+/- 10%), Progressive Scan CMOS,
Lens	Automatic Vari-focal Lens
Frame Rate	25/30fps (1920×1080)
Video Performance sensitivity at F1.3)	Color - 0.07 lux
	Black/white – 0.05 lux
	With infrared (IR)- 0 lux
Video functions	HD
	Dynamic Noise Reduction
	Intelligent Defog
	HLC and Backlight Compensation
	ICR (Auto Day night)
IR distance	30 meter
Input Voltage	Dc 12V and PoE with IEEE standard
Ingress Protection	IP66 by default without any adaptation
Video compression	H.264/MJPEG
Streaming Capacity	Two-Stream
Memory	SD/SDXC Card of 64GB
ONVIF	ONVIF compliant
Certifications	UL/CE and FCC

2.4.2 INTEGRATED SPEED IP PTZ DOME CAMERA

Make: Pelco/Panasonic /Bosch/Axis

Imager	1/2.8" (+/- 10%), Progressive Scan CMOS
Total sensor pixels	2 Megapixel
Frame Rate	25/30fps (1920×1080)
Optical Zoom	30 X
Digital Zoom	12 X and above
Video Performance sensitivity at F1.6	Color 0.2 lux/F1.6
	Black/white 0.02 lux/F1.6
	With infrared (IR) 0 lux
Video functions	HD
	Dynamic Noise Reduction
	HLC and Backlight Compensation

	Intelligent Defog
	ICR (Auto Day night)
Pan Range	360° continuous
Pan speed	0.1° - 200°/s
Tilt Range	0° to 90°
Tilt speed	0.1° - 120°/s
IR distance	150m
Input Voltage	AC 24-48V and POE with IEEE standard, 50Hz
Ingress Protection	IP66 by default without any adaptation
Video compression	H.264/MJPEG
Streaming Capacity	Two-Stream
Memory	SDHC/SDXC Card of 128 GB
ONVIF	ONVIF compliant
Certifications	UL/CE and FCC

2.4.3 IP VIRTUAL PTZ CAMERA

Make: Pelco/Panasonic /Bosch/Axis

•	360 degrees panoramic camera should feature multiple viewing modes, virtual PTZ.
•	2 Megapixel- High resolution or better.
•	Should support 15 mt IR Range, SD card of min. 32 GB
•	Should capture high quality coloured images in dim light environment with 1/2", Progressive Scan CMOS.
•	SNR>50 dB is to be provided.
•	Support 1 X fisheye (2048 X 2048, 30 fps) view, or 1 X panoramic (2048 X 1536, 30 fps), 4 X PTZ (1024 X 768, 30 fps), Shutter time 1/25 ~ 1/100,000 s, DC 12 V/ PoE, Audio/ Alarm IO, IP 66 outdoor
•	Support regional cropping with Multiple OSD colour
•	System support ON VIF (profile S/ profile G), CGI, PSIA, ISPAI protocol.
•	Support dual streams, and support 20 channels live view at the same time, IK10 Protective level, support three level user authentication management, user and password authorization
•	Support H.265, M-peg4, H.264 or better multi cidec compression capability, at least dual streaming capability.
•	Shall be UL and FCC/CE, ON VIF certified.

Note : Cameras shall be supplied with its suitable Power supply and its mounting arrangements as per site conditions i.e. wall, pole mount any with all required accessories & fitments.

2.4.4 SURGE PROTECTORS.

MAX DC supply	60V DC-650mA
Nominal discharge: Line/ Line	<500A @8/20 micro seconds
Nominal discharge: Line/ Ground	2000A @8/20 micro seconds
Ingress Protection	IP65
certification	UL/CE

2.4.5 HIGH FREQUENCY INTERFERENCE BLOCKER

The device should have

•	RF blocker
•	Frequency Analyser
•	Auto Frequency detection

2.4.6 WIRELESS TRANSMITTERS & RECEIVERS.

Make: Cambium/Ruckus/Radwin

Data rate	200Mbps
Type	Capable of Point to point and Point to Multipoint connectivity
Frequency Range	5 Ghz and above (free operating frequency range)
Range	15Km. (expandable upto 25kms)
Channel width	5MHz / 10 MHz / 20MHz / 40 MHz
Modulation	MIMO-OFDM (64-QAM or higher) with Forward Error Correction (FEC)
Transmit power range	20 dBm and above
Powering Method	POE
Ingress Protection	IP67 by default without any adaptation
Operating Temperature	10 deg to 55 deg
Wind survival	150 km/hr
Encryption	128bit AES
Certifications	UL/CE and FCC Certified

2.4.7 NETWORK VIDEO RECORDER 32 CHANNEL

Make: Pelco/Panasonic/Bosch/Axis

No of Channels supported	32 channels
Power Input	AC - 230V(+/- 10%), 50Hz
Storage	Enterprise class Hard disk, 4 HDD slots and loaded with min 16TB /18 TB (Multiples of 4TB, 6TB)
Support Image Format	H.264/MJPEG
Max number of cameras	32
Supported browser	OS windows 7/8
Alarm	Input- 16, Output - 4
User access	16
Camera control	Pan, Tilt, Zoom
External storage	USB port
Output	2 HDMI port
Network Interface	2 number of 10M/100M/1000M
ONVIF	ONVIF compliant
Certifications	UL/CE and FCC

NVR Shall be supplied with suitable video management software for parallel monitoring on minimum five PC, recorded images if required shall be downloaded in PC also. NVR shall support external storage device also for future expansion of storage systems.

2.4.8 DISPLAY MONITOR 40" LED

Make: Samsung/Sony/ Panasonic/LG

Resolution	1,920 x 1,080 (16:9)
Type	60 Hz LED BLU :1920x1080(16:9)
Pixel Pitch(mm/in)	0.15x0.46
Active display(mm/in)	885.6x498.1
RGB	Analog D-SUB, DVI-D
Video	CVBS, Component, HDMI
Audio	Stereo mini jack

2.4.9 CLIENT PC 32" LED MONITOR WITH VIEWER SOFTWARE

Make: HP/Dell/Lenovo

Used for parallel monitoring of pictures of all connected cameras with max capacity of 32 cameras. Should be able to view LIVE and Playback. PC shall be loaded with CCTV software along with licensed antivirus.

Processor	Intel® Core™ i3
Operating system	Windows® 7/8 Professional
Graphics	2GB, Graphic card loaded Nvidia/ Geforce with HDMI output
I/O Ports	2 external USB 3.0 ports (rear) and 4 external USB 2.0 ports ,1 Serial port (optional); 1 PS/2 (optional); 1 RJ-45; 1 VGA; 1 Display Port 1.2; 1 Mic-in & 1 Headphone out (front); 1 Mic-in/Line-in & 1 Line-out(rear)
Hard Drive	1TB
RAM	4GB , DDR3

2.4.10 CENTRAL VIDEO MANAGEMENT SOFTWARE WITH CPU /SERVER /DEVICE

Sl. No.	General Specification on	Technical Specification	
1	Video management	Number of connected cameras per server	camera Device:1000 devices or 2000 channels ONVIF Device:200 devices
		Device management	IPC, NVR, encoder, decoder(standard/expanded), network keyboard, cloud devices, alarm control panel and door access control
		Numbers of online users	300
		Numbers of roles per user	16
		Bandwidth of video input per server	512Mbps
		Bandwidth of video output per server	384Mbps

2	Decoding	Video compression	Ultra265, H.265, H.264
		Decoding	4×4K@30, 16×1080p@30, 36×720p@30, 64×D1
		Resolution	12MP/8MP/6MP/5MP/4MP/3MP/1080P / 960P/720P/960H/D1/2CIF/CIF/QCIF
		Display on video wall	HDMI(×2) and VGA(×1) output; HDMI output supports 4K resolution
		Audio compression	G.711
		Decoding card (optional)	Max 2 cards supported; models: HDMI4-C and HDMI6-C
		HDMI4-C decoding card	4-ch HDMI outputs, with decoding of 4*4K@60 or 8*4K@30 or 32*1080P@30 or 64*720P@30
		HDMI6-C decoding card	6-ch HDMI outputs, with decoding of 6*4K@60 or 12*4K@30 or 48*1080P@30 or 96*720P@30
3	Storage	HDD installation	Hot-swappable HDDs Support 16HDDs (3.5", up to 8TB for each)
		RAID mode	RAID0, RAID1, RAID5, RAID6, RAID10, RAID50, RAID60
		Bandwidth of video storage per server	512Mbps
		Disk enclosure (optional)	Max 2 disk enclosures supported; models: DEU1008 and DEU1016
		DEU1008 disk enclosure	8xSATA interfaces, up to 8TB storage per interface
		DEU1016 disk enclosure	16xSATA interfaces, up to 8TB storage per interface
4	Play control		1 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 13 / 16 / 17 / 25 / 32 / 36 / 64 window display Corridor format Up to 3 auxiliary monitors
5	Playback		Play NVR recordings Up to 24 channels for multiple clients; synchronous playback up to 16 channels for single client
6	System	Main Processor	Intel(R) Celeron(R) CPU N3160, 64-bit, 4- core processor
		Memory	4GB DDR3L
		Power supply	100-240 VAC (with power on/off switch) Dual-power redundancy

2.4.11 Network switch 4 POE Port 10/100/1000 MBPS switch

Make : Cisco/ Brocade/Digital/D-link

8 port 10/100/1000Mbps.(4Port POE & 4 Port LAN)

2.4.12 Network switch 24 Port 10/100/1000 MBPS switch

Make : Cisco/ Brocade/Digital/D-link

24 port 10/100/1000Mbps and 4 SFP.

2.4.13 Racks 4U.

Make: Dynamic/HCL/Dlink

Mounting Arrangement	Wall mount
Dimensions	550x400x230 mm
Paint	Powder coating
Thickness	high quality metal sheet .8mm
Front	Toughened glass door with lock
Cable Entry	Top & bottom with rubber protection at edges
ventilation	Sufficient perforation provided at side & front
Points	6 Socket 5 Amp, 5 Socket 5/15 Amp

2.4.14 Miscellaneous Items

Misc items, like saddles, fitting materials, switch, sockets, screws, nuts, fasteners, jointers, sealants, accessories, etc as required to run the system included in quote.

2.4.15 UPS 5KVA:

Make: Numeric /Emerson/APC

Phase	Single
Voltage	230V AC
Voltage Range	160- 300V AC
Power factor	0.99%
Current THD	Less than 5%
Battery	192- 240 V
Battery charging	Constant current & constant voltage
Nominal O/P voltage	230V +/- 1%
Frequency	50Hz
communication	RS 232/USB port for software interface
Display	LCD/LED display
certification	CE /UL

- UPS shall deliver 100% power without de-rating Battery, backup provided shall be for minimum one hour.

2.4.16 POWER CABLE

Make: Finolex/Polycab/Havells

Power cables and Control cables up to 3 cores X 1.5 Sq mm, un-armoured flexible, Copper conductor, the cores are to be identified by different colours as per ISI standards.

2.4.17 CAT6 Armoured cable.

Make: D-link/Finolex/Digisol

- Conductor Diameter : 0.520mm Nominal
- Insulation Diameter: 0.940mm Nominal
- Armoured with Insulation Material: HD-PE
- Should be ISI certified

2.4.18 PVC HEAVY DUTY CONDUIT.

PVC conduit dia. 25mm, Heavy duty.

As per ISI standards.

2.4.19 OPTICAL FIBER CABLE

Make: Molex/ Schneider/Beldon/HFCL/Sterlite

Description	Specification
OFC	Six core
Mode	Single Mode
ISO	11801
Jacket materials	1.8mm +/-0.2mm
Crushing load	3000 N/100mm
IEC	60793-1/60794-1-2
Storage temp	-40 deg to 60 deg C

2.4.20 JUNCTION BOX (JB)

JB to keep accessories such as power supply units, media convertors, etc.

Dimensions (mm) : 650(Height) X 490(Width) X 300 (Depth),

JB shall be FRP fabricated with lock and Ingress Protection of IP66 standard.

2.5 SYSTEM OVERVIEW/ GENERAL FEATURES:

- System capable to work for Day & Night operations (Automatic)

- System in Central Control Centre should work on its Power back up mode automatically in case of Power failure.
- All such locations where mounting structures and related accessories are required should be provided by the contractor within the cost quoted. Site survey should be undertaken.
- All equipments should be heavy duty for 24 Hours operations.
- All required equipments mentioned/not-mentioned but required for smooth running of system is to be in outdoor weatherproof enclosure.
- **Recording & Viewing features:**
 - Event recording
 - Motion Detection (sequential recording)
 - Scheduled recording
 - Adjust brightness, Contrast, Saturation & hue for a clearer view
 - Support digital zoom in to view specific areas
 - 24hours/day, 7days/week unmonitored surveillance recording
- **Play back and search**
 - Playback 20 video records simultaneously
 - Search video records by camera, date, event types and time segments
 - Remote viewing and control, Non-stop recording
 - Backup video records manually or by schedule and directly backup recording files to CD/DVD/USB.

2.6 INSTALLATION & COMMISSIONING

- a) The Contractor shall carry the work as per the BOQ.
- b) The Contractor shall commence erection of equipment immediately after receipt of the equipment and complete the work to the satisfaction of the Chief Mechanical Engineer or his representative. Necessary scaffolding and safety measures for entire erection shall be done by the contractor.
- c) The work should be carried out with utmost safety precaution with minimum possible disruption of existing camera feeds.
- d) The installation of the various equipments shall be carried as per the site condition and as directed by the EIC.
- e) **Technical brochures/ data sheets of Cameras, wireless and NVR should be submitted specifically for models the tenderer intends to submit.**

2.7 **TESTS**

Necessary tests certificates as per relevant CE or UL certificate and ONVIF standards of the equipments etc shall be submitted in technical bid for models quoted for camera, NVR to the satisfaction of the Chief Mechanical Engineer or his representative.

2.8 **MANUALS, DRAWINGS AND GUARANTEE**

On completion of the work the Contractor shall supply 3 sets of operation and maintenance manuals after commissioning. The soft copy of all the drawings and manuals should also be provided which shall include General arrangement of the **"Wireless Digital Video Surveillance System"** with principal details, Schematic electric, electronic and programmable controller details and any other special feature which the bidder wishes to highlight.

The installation shall be guaranteed for 24 months from the date of acceptance and free maintenance shall be done during the guarantee period.

2.9 **LIST OF APPROVED MAKES:**

Sr. No.	Item	Name of Manufacturers
1	Cameras	Pelco/Panasonic/Bosch/Axis
2	Wireless Transmitters & receivers	Cambium/Radwin/Ruckus
3	Network Video Recorder 32 channel	Pelco/Panasonic/Bosch/Axis
4	Display Monitor 40" LED	Samsung/Sony/Panasonic/ LG
5	Client PC with viewer software with 32" LED Monitor	HP/Dell/Lenovo
6	Network switch 4 POE Port 10/100 /1000 GBPS	Digisol/D-link./Cisco/Brocade
7	Network switch 24 Port 10/100/1000 GBPS	Digisol /D-link./Cisco
8	UPS 5KVA	Numeric /Emerson/APC
9	Power cable	Finolex / Polycab/ Havell
10	CAT6 cable	D-link/Finolex/Digisol
11	Optical Fibre Cable	Molex/ Schneider/ Beldon/ HFCL/ Sterlite
12	Items not covered above	As per samples approved

2.10 **COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT:**

a) **CONTRACT PERIOD:**

The Comprehensive AMC order will be issued after Successful completion of the Two year Guarantee period. Based on the performance of the First year Annual maintenance Contract, the AMC order will be renewed each year for Three years as per the price quoted by the Tenderer. During AMC, the contractor has to replace all the spares which are required free of cost.

b) SECURITY DEPOSIT FOR COMPREHENSIVE AMC:

Security deposit shall consist of two parts:

a) The DD or Bank Guarantee equivalent to 5% of the CAMC value of the First year rounded off to nearest 100 rupees, shall be submitted within 30 days of issue of Letter of Acceptance

b) The balance 5% shall be recovered as Retention Money from the running bills.

Thereafter, the total of 10% (DD 5% and 5 % Retention money) shall be refunded on successful completion of First year of AMC and on submission of fresh DD or BG equivalent to 5% of the CAMC value of second year rounded off to nearest 100 rupees as Performance Guarantee for second year. The balance 5% shall be recovered as Retention Money from the running bills for the Second year.

The same procedure will be repeated for the third year of AMC.

c) GENERAL FEATURES OF COMPREHENSIVE MAINTENANCE CONTRACT.

1. The tenderer shall provide two-year guarantee for the entire system and shall quote for the comprehensive AMC of three years duration which will be executed after expiry of guarantee period, as per the price bid. The comprehensive maintenance shall include replacement of all defective components of the system including the cameras to maintain minimum 97% uptime of the entire system.

2. During the two year guarantee period and during the pendency of the CAMC, at least two skilled technicians shall be deputed exclusively to HDC daily and permanently stationed at the Administration Building during working hours so as to ensure prompt attendance to any breakdown calls as well as to carry out regular maintenance besides cleaning of the camera faces from time to time as required to ensure picture perfect visibility. During the two year guarantee period, the Port shall not bear any charges incurred by the tenderer for the posting of the skilled technicians.

3. During warranty and AMC period if any of the equipment supplied by the Tenderer i.e camera, NVR, wireless transmitters and receivers, etc. are found defective /Damaged, same has to be replaced by the Tenderer at their cost. Therefore Bidders shall access the environmental conditions, wind speed etc in respect to the

supply of quality of equipments and workman ship so as to ensure continual stability in running of system successfully.

4. A breakdown register shall be maintained by the service technician's under the control of the CISF's representative to whom the technicians should report and it will be countersigned by the CISF's representative from time to time. **The technicians should be present from 8.30 A.M. to 5.30 P.M. from Monday to Saturday for attending the work and will submit, on monthly basis, the day to day service reports.** In case need arises, the technicians should be present after office hours and during holidays without any cost and liability to the Port. The tenderer shall provide contact telephone number/fax/mobile/E-mail address to also register complaints at his office.

5. Bare minimum spares, list of which shall be submitted to the port on obtaining the work order, shall be stocked by the successful tenderer at all times at Port premises in the custody of the technicians deputed. The spares so stocked shall be recorded in the inspection register and got endorsed by the CISF's representative. The purpose of maintaining the bare minimum spares is to ensure high uptime of the system.

6. At the end of the first year, the performance of the contractor will be reviewed and in the event that it is found unsatisfactory, The BOARD reserves the right to terminate the contract.

The cost of AMC for the period of 3 years will be considered while evaluating the price bid.

Note: Tender without quote for CAMC will be treated as INCOMPLETE.

d) SCOPE OF WORK (CAMC)

The Tenderer should enter into Comprehensive Annual maintenance contract for a period of Three years, 15 days prior to the completion of guarantee period. The Tenderer shall quote for maintaining the entire system offered for a period of Three years including replacing of spares after the guarantee period

- i) Preventive and breakdown maintenance should be carried out to maintain the equipments in healthy operating condition.
- ii) Preventive maintenance shall be carried out strictly in four equal intervals of time per annum. The two service technicians permanently deputed to the Port shall ensure prompt attendance to any breakdown calls and carry out any other regular maintenance that is required such as cleaning of the camera faces from time to time to ensure picture perfect visibility
- iii) Attending to all emergency breakdown calls even on Sundays or Holidays.
- iv) Providing Telephonic support service in case of need.

- v) Maintaining adequate spares to meet any eventuality.
- vi) Maintaining operation and maintenance logbooks and records of preventive maintenance, non-availability of the system.
- vii) Carrying out the painting of the power supply panels of the cameras mounted on highmasts and of the camera mounting poles, once a year, complete with scrapping and painting of one coat of red oxide primer and two coat of anti corrosive silver paint.

e) PENALTY CLAUSE (FOR CAMC)

The system uptime shall be 97%

The percentage monthly availability of the wireless DVSS equipment shall be calculated as given below:

Monthly Availability in percent = $[(A-B) / A] \times 100$

Where A= Maximum possible equipment availability

= No. of working days in a month x 24hrs

and B = Total no. of hours, the equipment remains under breakdown/maintenance

N.B.: Non-availability of the equipment due to the following shall not be considered while calculating total available time A.

- 1) Non-availability of power supply from supply source
- 2) Force Majeure
- 3) Any other cause which is beyond the reasonable control of the contractor

Downtime exceeding 3% shall be calculated on pro-rata basis for a cumulative period of one month and the tenderer will have to pay penalty towards the same which will be recovered from every stage of AMC payment.

Availability below 80% shall be construed as failure of the contractor in performing the obligations under the contract because of poor performance by the contractor and no further payments shall be made.