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Deputy Directorate General
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West Block – III, RK Puram
New Delhi – 110 066

B/03566/DGIS-KLP/SW/DDG IT (Projects)/

Dec 2008

**ESTABLISHMENT OF ACCESS CONTROL SYSTEM AND CLOSE CIRCUIT TV (CCTV) AT
NEW KLP LOCATION FOR DIRECTORATE GENERAL INFORMATION SYSTEM**

Sir,

1. Deputy Directorate General of Information Technology, Army HQ, hereinafter referred to as Customer, is interested in establishing Access Control, Close Circuit TV (CCTV) and Desktop Video Conferencing system at new KLP location for Directorate General Information System (DGIS), EDP enclave, Rao Tula Ram Marg, New Delhi. Please give your final technical and commercial offers as per **Appendix 'A'** attached. The following points may please be adhered to while filling up the offer: -

- (a) Only the enclosed formats (**Appendix 'A' and its annexure**), in original will be used. Companies will affix their company's stamp in the space provided at the top of each sheet and the authorized signatory of the Company must sign this also. Additional sheets, duly authenticated, may be attached to elucidate specifications or clarify a point.
- (b) The costs to be indicated for each item should be the cost of the item, inclusive of all taxes, levies, freight, etc.
- (c) Total Costs for the quantity to be supplied will be indicated.
- (d) **Technical and Commercial offers** will be submitted in **separate envelopes** marked "Technical Offer" and "Commercial Offer" respectively.
- (e) The Commercial Offer will be valid for a minimum 180 days from the date of closing of tender.
- (f) Only OEMs or vendors authorized to quote on their behalf specifically for this tender will respond quoting OEM products only. The list of Documents to be deposited by the Vendor is given in **Appendix 'B'**.
- (g) The cost of each item should be mentioned in terms of Basic Cost, Taxes, Levies, Octroi and Total cost in separate column (if some columns are not applicable 0% can be written). In case any columns are not found to be properly filled, the tender is likely to be rejected.

(h) The Vendor will ensure confidentiality of the project and will not disclose any information gained by them or their representatives or agents while interacting with the persons of the customer (DG Info Sys personnel's and / or of any other unit of Indian Army). The authorized representative of the Vendor will sign the **certificate of confidentiality** given at **Annexure 'IV'** with the Company seal duly affixed.

(j) **If any HDD becomes unserviceable during warranty, the same shall be replaced by the vendor by similar or a higher capacity HDD. However, the old HDD installed in the system will be kept by user or will be destroyed at user's location.**

2. **Detailed scope of work.** The project will be executed on a turn key basis and it encompass supply and installation of Access Control System, CCTV and Desktop Video Conferencing System. Detailed scope is explained in the following paragraphs:-

(a) **Access Control.**

(i) The proposed Access Control system shall be web based and involve installation and integration of proximity card reader to control access in the new KLP building at EDP enclave. The cabling will be structured and networking will be configured in an optimised way.

(ii) The system will have centralised server over which web based application will be loaded. It will also host a database keeping details of card distributed to individuals and a log of events (audit trail) corresponding to each card/individual. The system is required to store a transactional data for a period of minimum one year.

(iii) **Monitoring Console.** The system will include monitoring console in the control room to facilitate real time monitoring with limited or defined administrative rights. It will also have integrated visual/audio alarm to cover any unnatural events like Forced entry etc.

(iv) **Visitors Management.** The system will have integrated visitors' management features so that their access can be restricted to particular branch that they are visiting, thus the complete building need to be divided into different zones accordingly. Clarification on same can be taken from user.

(v) **Access Card.** The access card will bear printed materials with suitable logo as given by the user. The detail technical specifications are attached at appx however each card will be delivered with card holder and lanyard for easy carriage. The vendor will also have to give undertaking for replacement of up to 50 unserviceable cards in a year at no extra cost during warranty as well as during the period of AMC (if exercised by user).

(b) **Close Circuit TV (CCTV)**

(i) The CCTV system will be IP based and need to cover all entry/exit points of the building located at EDP enclave. The system will be integrated with the LAN established within the building so that any desktop connected on the LAN can be configured to access the output of cameras using any standard browser like Internet

Explorer etc. The cabling will be structured and must confirm to Cat 6 enhanced specifications.

(ii) **Control Room.** There will be a requirement of establishing a centralised control room where facility for real time monitoring (24 x 7) will be made available on LCD panel. The system will have integrated network based recording system for storing at least 15 days video and it should also offer user based access rights for online configuration of the system.

(iii) The CCTV system will comprise of combination of PTZ/ fixed cameras and should be fully supported by software so that cameras can be focus/configure with the help of console/terminal at any point of time.

(c) **Desktop Video Conferencing.** The system will comprise of Desktop point to Multipoint and point to point video conferencing based on IP. The cabling will be structured and must confirm to Cat 6 enhanced specifications.

(d) Vendors are advised to make site visits and interact with the user before submitting their Tenders. The contact person is Lt Col Shiwesh Kumar, System Manager ASDC, and Telephone No 25691008.

(e) Vendors will indicate the actual quantities of all hardware including types and qty of cables, active and passive networking components used and provide a bill of materials along with the technical bid. Non-provision of the bill of materials will render the bid invalid.

(f) Hardware provided for the above systems will be completed in all respects to include all connectors etc. The complete project will be executed on a turn key basis and should be seamlessly integrated with the existing LAN.

(g) Installation of hardware, commercial software, drivers and integration.

Note: Any component not given should be indicated in the bill of materials with quantities, costs & technical specifications of product and brochures.

3. You are requested to indicate your acceptance of the above offer based on the terms and conditions as given out in the succeeding paragraphs.

4. **Delivery and implementation Schedule.** Details of project implementation are as under:-

(a) Delivery of hardware and commercial software for acceptance within six weeks of placement of supply order at Directorate General Information System, EDP enclave, Rao Tula Ram Marg, New Delhi – 10.

(b) Installation of hardware, software and networking by the vendor within six weeks of completion of Acceptance Tests.

5. **Cabling.** UTP CAT 6 enhanced cable will be used other than specialised cable required by the system for establishing network and will be encased in PVC flat or conduit pipe. The network will be configured for minimum 1000 Mbps throughput at Workstation/Desktop.

6. **System Maintenance.** Three year comprehensive on site warranty will be provided. During the period of warranty, the vendor would provide on site Resident engineer for System Maintenance, which would include hardware maintenance and commercial software. Vendor will provide the following:-

- (a) During the period of warranty the vendor will ensure that the system continues to perform in exactly the same manner as at the time of acceptance.
- (b) **Hardware Maintenance.** Hardware supplied would be repaired on site. The user/user's representative would approve any equipment being moved out of site for repairs, if required. The hardware will be moved out at the expense of the vendor. Terms of Para 1(j) will be adhered to at all times.
- (c) **Networking Maintenance.** This would include periodic testing, at mutually decided periodicity in addition to attending to any breakdowns on occurrence, of the networking circuits which includes cabling, switch and all other networking components and software.
- (d) **Commercial/Bought out Software.** Vendor's responsibility in this regard would be limited to providing updates/upgrades, which come free of cost from the Principal. As and when the user wishes to upgrade commercial software vendor would provide complete assistance during the maintenance period. In case of a crash the vendor will be responsible for reloading the OS and recreating the operating environment.
- (e) **Arrangements for Warranty.** Where the tenders are quoted for by resellers/ channel partners on behalf of OEMs, proof in writing to the effect that a back to back arrangement/ exercising of support pack options with the OEM for the second and third year of warranty, shall be provided on placement of supply order. This shall be required for the peripherals such as server, workstation, UPS etc. Failure to provide sufficient proof for the arrangements shall either result in non-processing of payments due to the vendor or cancellation of supply order.

7. **Acceptance Testing.** On delivery of all Hardware and Commercial software at Directorate General Information System, the system will be subjected to detail acceptance testing procedure. The details of the procedure will be worked out jointly by the vendor and the user. The specifications of the equipment should be in conformity with the details provided by the vendor and as per the given specifications. The user would issue an acceptance certificate on successful completion of acceptance testing. The date of issuing the acceptance certificate would be deemed to be the date on which the warranty will commence.

8. **Training.** Training for 10 pers of Directorate General Information System will be conducted by the vendor at DG Info System location. The training will be basically of system administration, networking, server/system configuration, Server OS configuration and configuring of Cameras, Card Reader, Cards and Video Conferencing console. The Training will be conducted in two batches for 30 Hrs each at the time of commissioning of system and the same will be followed by refresher training for equal no of pers every year during the three years Warranty period. Refresher training will also be imparted annually during AMC period if exercised by user.

Payment Terms

9. **Performance Bank Guarantee.** 10 % of the complete cost of the project shall remain under Bank Guarantee till the expiry of the warranty as Performance Warranty. The vendor shall furnish a performance Bank Guarantee equal to 10% of the total value of the contract within seven days of the receipt of supply order. In case of non-adherence to the delivery schedule for

all deliverables of the project as given at paragraph 3, liquidated damage as given at paragraphs 11 and 12 below will be deducted from this amount. Bank guarantee will be valid till the expiry of the warranty.

10. The payment terms will be as under: -

- (a) 40% of the total project cost will be paid on delivery of the Hardware, Commercial software and networking components at Directorate General of Information System.
- (b) 20% of the total project cost will be paid on satisfactory acceptance of all the Hardware and software and on production of acceptance certificate from the user.
- (c) 40% of the total project cost will be paid on satisfactory installation, integration of the system and Successful conduct of the Training.

11. **Liquidated Damages**. If the vendor fails to complete, all deliveries of hardware and commercial software within the stipulated period, the vendor shall pay to the Customer – DDG IT liquidated damages, at the rate of one percent (1%) of the total value, for each complete week or part thereof, for delay up to a maximum of ten percent (10%) of the value of supply order. Thereafter, the CUSTOMER will have right to terminate the supply order in case of such delay beyond 10 weeks.

12. **Method of Payment of Liquidated Damages**. The amount charged as liquidated damages would be deducted by the Customer from the amount due for payment to the Vendor. If the amount of such LD exceeds the payments due to the Vendor, the Vendor shall within 30 (thirty) days make payment to the Customer in FULL & FINAL settlement of claims failing which the bank guarantee will be encashed to make good the amount exceeding the payment due to the Vendor.

Warranty and Maintenance Backup

13. **Warranty**. Vendor will provide three years free on site comprehensive warranty for the complete system to include hardware components operating system and networking commencing on the date of acceptance. The vendor will provide a resident engineer, who will be responsible for up keep of the system and available in DG Info Sys complex during the office hours on all working days. During warranty, the vendor will repair/replace without any cost any equipment/part/accessory, which becomes defective except items of a consumable nature. During the warranty period all warranty benefits received by vendor from the OEMs, for any equipment pertaining to third parties will be passed in Toto to the customer. The vendor will also have to undertake replacement of upto 50 unserviceable access cards per annum at no extra cost during the period of Warranty. The exercising of option for replacement of card will be at the discretion of user whether biannually, annually or in a block of three years. The customer may invoke the bank guarantee in case vendor fails to ensure rectification of defects within two weeks of the defect being intimated to vendor. Vendor will ensure 95% systems availability during the warranty period. Items of consumable nature must be specified while tendering.

14. **Conditions during Warranty and Annual Maintenance Contract (AMC)**. The system should fulfil the following conditions during the warranty and subsequent AMC: -

- (a) Any failure in the system or subsystem will be intimated to the resident engineer and in case of major fault the vendor will be intimated at specified service station. The vendor is responsible for rectifying the faults on site within a period of 48 hours of loading a complaint or having brought in the system which ever is applicable.

(b) If the system is down beyond 48 Hours, penalty at a rate of Rs. 2500 (Rs. Two Thousand Five hundred only) per day will be charged or recovered out of Bank Guarantee held towards warranty/AMC. In case of any system/subsystem being down for more than five working days, user has the option to get it repaired from any suitable agency at the risk and cost of the vendor, which will be deducted from the Bank Guarantee due to the vendor.

(c) Any system failing at subsystem level three times within a period of three months or displaying chronic faulty behaviour or manufacturing defects or quality control problems will be totally replaced by the vendor at his risk and cost within 15 days of being intimated.

(d) **Consumable**: The vendor will prepare and submit a List of items to be treated as consumables during warranty and AMC.

15. **Annual Maintenance Contract.** AMC will be contracted at the option of the user. All maintenance will be provided at site. Other terms and conditions governing Annual Technical Support) ATS would be examined and finalized at the time of warranty. The modalities and rate of AMC will be worked out mutually between DDG IT and vendor. DDG IT or his authorized representative will execute the contract for AMC. Items of consumable nature, which will not be covered under AMC, must be specified while tendering. Printer heads for all printers will be covered under AMC.

16. In case the user wishes to maintain the equipment in house or through a third party in case of unsatisfactory performance during the AMC period, you will continue to provide all spares/modules required, on payment, to maintain the system in their original configuration, to the maintaining agency, for a period of five years from the termination of the warranty. Failure to do so will amount to breach of contract. AMC cost will be mentioned in the commercial bid (at Annexure II to Appendix 'A'). However, the AMC cost will NOT be taken in consideration while deciding on the lowest bidder.

17. **Commencement of AMC.** If the customer decides to exercise the option to enter into AMC upon expiry of the free warranty period, the agreement for AMC will be signed with the appropriate authority one month prior to the expiry of the free warranty period.

18. **Renewal of AMC.** The AMC will be renewed every year 12 calendar months from its commencement at the option of the user. If the customer decides to exercise to renew the AMC on expiry of the previous years AMC, the agreement for the renewed AMC will be signed with the appropriate authority one week prior to the expiry of the previous years AMC. All necessary documentation for signing of AMC will be provided one month prior to the signing of AMC.

19. **Uptime.** Vendor will guarantee to provide 95% uptime for the complete system, during the warranty and subsequent AMC if signed. Methodology for calculation of downtime will be worked out jointly between the vendor and the user at the time of placing the order. In case of failure to maintain specified uptime, the proportionate loss to the government will be made good by the vendor as specified in paragraph 14. Alternatively warranty may be extended by the duration for which the company has been unable to provide specified uptime. The discretion to exercise either of these options lies with the customer. Bank guarantee submitted as performance guarantee will be extended accordingly in case of extension of warranty period.

20. **Software Updates.** Vendor will guarantee provision of all commercial software updates (provided by the OEM), depending upon the option to be exercised by the user for a period of five years after expiry of warranty period.

Submission of Offers.

21. Submit offers in two separate parts, i.e., “**Technical**” and “**Commercial**”. Technical and Commercial offers will be submitted as per Annexure II & III , in separate envelopes marked “Technical Offer” and “Commercial Offer” respectively. Vendors will ensure that their bids are complete in all respects.

22. Once the supply order is placed, it will be the Vendor’s responsibility to submit the deliverables in time. Any additional cost incurred in any resources for completing the project and for which the vendor has not bid at the time of submission of the final offer would be borne by the vendor.

23. **Evaluation of Bids.** You are requested to submit your offer in two separate parts i.e. Technical and Commercial. Both parts will be submitted in separate sealed envelopes. The bids found technically acceptable will only be considered for PNC.

24. An offer received incomplete or ambiguous can be rejected at the discretion of the DEPUTY DIRECTORATE GENERAL INFORMATION TECHNOLOGY without recourse to clarifications. The DEPUTY DIRECTORATE GENERAL INFORMATION TECHNOLOGY also reserves the right to seek clarifications with one or more vendors if considered necessary and also not accept any offer at all in case they are not reasonably priced.

25. Any conditions and / or terms given in the bids by vendors will not be binding on the “Customer”. All the terms and conditions for the project, payment, penalty etc will be as given herein and no change in any terms or conditions by the vendors will be acceptable. Alterations, if any, in the tender documents should be attested properly by the vendor, failing which, the tender will be rejected. Vendors will not make any assumptions while submitting their bids. If required, clarifications will be sought prior to submission of bids.

26. Date, time and composition of the meeting for the Price Negotiation, if needed, will be intimated later.

27. Terms and conditions for the project are attached as Annexure I. These will be signed by the authorized company representative and stamped with the company stamp.

28. You are requested to send your best offer in the office of the undersigned by _____ on _____. Any offer received after this may be rejected at the discretion of the “Customer”.

29. Please ensure that this is your best and final offer.

Yours faithfully,

(R Sundharam)
Col
Dir IT

Annexure I to Appendix 'A'

(Refers to Paragraph 1 of B/03566/DGIS-KLP/SW/DDG IT (Projects) dated Dec 2008)

**TERMS AND CONDITIONS FOR ESTABLISHMENT OF ACCESS CONTROL SYSTEM AND
CLOSE CIRCUIT TV (CCTV) AT NEW KLP LOCATION FOR
DIRECTORATE GENERAL INFORMATION SYSTEM**

Validity. Prices are valid up to _____ (Fill date). (Minimum 180 days from date of closing of tender)

CERTIFICATE

It is certified that all the terms and condition as laid in the tender and its appendices are accepted by the company and we will abide by them. It is further certified that any cost incurred on additional Hardware/Software/Networking required to complete the projects would be borne by us.

Company Seal

(Authorised signatory of company)

Place _____
Date _____

Annexure IV to Appendix 'A'

(Refers to Paragraph 1 of B/03566/DGIS-KLP/SW/DDG IT (Projects) dated Dec 2008)

CONFIDENTIALITY CERTIFICATE

It is certified that the Company or any representative of the Company or agents authorized by them will not disclose any information gained by them or their representatives or agents, while interacting with the persons of the DG Info System or any unit of the Indian Army or any documents prepared in connection with the project or any documents received by them or any study carried out by them, directly or indirectly to any person or company or institution or press or country.

Company Seal

(Authorized signatory of company)

Place: _____

Date: _____

Annexure II to Appendix ‘A’
(Refers to Paragraph 1 of B/03566/DGIS-
KLP/SW/DDG IT (Projects) dated Dec
2008)

COMMERCIAL BID

1. Please submit your commercial bids in the format given below. Costs with and without form ‘D’ are required to be given separately as shown :-

Ser No	Category	Unit Cost				Qty	Total Cost (without form D)	Total
		Basic Cost	Custom duty (if any)	Taxes/ Levies / Octroi Etc (Please specify)	Total Unit Cost			
1	2	3	4	5	6	7	8	9
<u>ACCESS CONTROL SYSTEM</u>								
1.	Controller (Master Configuration) for 4 reader upgradable to 16 reader with 32-bit CPU board with power supply and battery backup.					6		
2.	Extension enclosure (Slave configuration) upgradable to 16 reader (Slot option) with power and battery backup.					8		
3.	Integration Module with minimum 8 Input and 8 output.					4		
4.	4 – reader wiegand interface card for Reader Controller.					18		
5.	Extension conversion serial RS-485 to Reader or IO board for extension enclosure.					8		
6.	Software with compact flash memory module for controller.					6		
7.	Access Easy Master Controller for up to 20 controller 4W with a maximum of 320 wiegand readers, centralised data storage on hard disk, linux operating system with web access, off-line processing, backup and restore (CE)					1		
8.	Access Easy Master Controller Software					1		
9.	Smart Card Reader with keypad and PIN Identification from 4 to 7 digits					96		

1	2	3	4	5	6	7	8	9
10.	Clamshell Cards 2K bit, 2 Application Area with Lanyard and card holder.					1100		
11.	Electro Magnetic Lock for door.					96		
12.	Door Position Sensor (DPS) for door information feed back .					96		
13.	Power Supply for Electro Magnetic Lock .					96		
14.	Computer for Programming Cards and Storage for the Main Control Room with TFT Monitor					1		
15.	Cable (incl specialised cable) and networking components.							
<u>CLOSED CIRCUIT SURVEILLANCE SYSTEM</u>								
16.	Outdoor dome P/T/Z IP Camera with 26 x optical Zoom or better.					1		
17.	P/T/Z IP Camera with 18 x Optical Zoom or better.					2		
18.	CS Mount Fixed outdoor, IP Camera with vari focal lens.					7		
19.	LCD Panel 47" for 24 x 7 monitoring.					1		
20.	Digital Keyboard for controlling the P/T/Z Camera					1		
21.	PC for Master software at Central Control Room					1		
22.	Video Management Master Software					1		
23.	High-end server station for multi-channel recording					1		
24.	Software for Network Video recording cameras					1		
25.	RAID 5 Hard disk unit 1 TB (to be connected to NVRs on SCSI port)					1		
26.	UPS – 6 KVA on line for Control Room					1		
27.	Cables and networking components.							

1	2	3	4	5	6	7	8	9
<u>IP BASED VIDEO CONFERENCING</u>								
28.	IP based Desk Top Video Conferencing System (Point to Point).					11		
29.	20 Inch Desk Top Multi Point Video Conferencing System on IP with 1+5					1		
30.	Cables and Connectors							
31.	Installation, Testing, Integration, Programming and commissioning of Access Control, CCTV and Video Conferencing system (including structure cabling and racks of suitable size).							
Total Cost (Ser No 1 to 31)Rs Total (in words)_____.								

Note: - The price indicated above shall be the final landed price of the products and all levies, taxes, custom duties etc should also be indicated separately. CDEC will be provided by buyers in case of import components.

(*Serial Nos 15, 27 and 30) - Provide list of components to support your quote.

2. Cost of training as given at Para 8 of the main Tender document:-

(a) Training cost :- Rs _____

(b) Taxes etc (please specify) :- Rs _____

Total Cost Of Training :- Rs _____

3. Cost of AMC for five years after expiry of warranty period :-

Ser no.	Year (from expiry of Warranty)	AMC Percentage	AMC Cost
1.	Year One		
2.	Year Two		
3.	Year Three		
4.	Year Four		
5.	Year Five		

Total AMC Cost for the First Five Year Period: - Rs _____

Company Seal

(Authorised signatory of company)

Place_____

Date_____

Annexure III to Appendix ‘A’
(Refers to Paragraph 1 of B/03566/DGIS-KLP/SW/DDG IT (Projects) dated Dec 2008)

TECHNICAL BID: HARDWARE/ COMMERCIAL SOFTWARE
ALL HARDWARE WILL BE ISO 9002 COMPLIANT

Ser No	Specifications	Complied Yes/No	Deviation if any
1.	<u>GENERAL SYSTEM REQUIREMENTS</u>		
(a)	The proposed system shall fulfill the functions and specifications described in this document. In particular, the access control system shall be a web based access control system whereby any computer can be used to operate the controller (or control panel) directly using a standard web browser program available freely. The controller shall be a black-box design with embedded software built-in, including a web server program.		
(b)	The proposed system should be on open standard and have capability to integrate access control, CCTV Elevator module, Fire, Intruder and environment security module.		
(c)	The complete system i.e. Access Control and CCTV should be UL rated.		
(d)	The IP based Access Control and CCTV should be preferably of same OEM for better integration.		
(e)	The OEM Should have established setup in India for the last 5 years.		
(f)	Tender Specific authorisation from the OEM is must with the Technical Bid.		
<u>ACCESS CONTROL SYSTEM</u>			
2.	<u>GENERAL REQUIREMENT</u>		
(a)	The access control system should provide controlled access through card Reader based on card user's access level. An access level can be defined on a door or group of doors (Zones) based on time period. The system should have ability for multiple access levels and can be programmed to add or removed selected doors for individual cardholders.		
(b)	The system should provide automatic card activation and expiration by specified time and date.		
(c)	The system should have inbuilt storage for card access transaction like time, date, reader location, nature of transaction, cardholder details and validity status. It must keep transaction record for a minimum of one year.		
(d)	It should provide tracking facility by individual card.		
3.	<u>SYSTEM ARCHITECTURE AND SPECIFICATIONS</u>		
(a)	The proposed system shall be designed using the latest technology. All PCs and the central server shall be based on the latest version of Intel or AMD based computers and server		
(b)	The Intelligent Field Controller (IFC) used shall also be based on minimum 32-bit embedded microprocessor chip, and communicate with the central supervisory controller, Master Controller, via Ethernet network directly at speed of 10/100/1000 Base-T.		

Ser No	Specifications	Complied Yes/No	Deviation if any
(c)	The design of the complete system shall be based on a truly distributed processing mode without compromising to a 'degraded' operation even if there is a failure in Central Web Based Application Server or the network. All the IFCs shall be fully capable of standalone operation in the event of failure on the Ethernet network or Central Web Based Application Server.		
4.	<u>THE OVERALL SYSTEM SHALL CONSIST OF THE FOLLOWING MAJOR EQUIPMENTS</u>		
(a)	Central Web-Based Application Server , for managing and controlling all the Intelligent Field Controllers (IFCs).		
(b)	Intelligent Field Controller (IFC), for access control and alarm monitoring and control functions. Each controller shall be able to support a maximum of 16 doors and monitor 32 alarm sensors.		
(c)	Central Computer: Standard desktop PC to be used for cards assignment to users, managing and/or monitoring of alarms in the whole system.		
(d)	Network Switches/Hubs.		
(e)	Card readers for access control, attendance data capture, intrusion alarm arming/disarming.		
(f)	Each of these components shall be configurable together in modular form to operate as a fully functional, complete Access Control System.		
(g)	Power supplies with back-up batteries for all other access control equipments and electric locking devices, providing minimum 1 hour of uninterrupted power during power failure shall be provided.		
5.	<u>SPECIFICATION OF CENTRAL COMPUTER</u>		
	<u>Make</u> : <u>Model</u> :		
(a)	<u>CPU</u> : Intel Core 2 Duo, 1.8 GHz or better, 2 MB L2 cache and 800 MHz FSB or better.		
(b)	<u>Motherboard</u> : Intel Q 965/nVidia chipset 7025 or better on OEM Motherboard.		
(c)	<u>Bus Architecture</u> : Integrated Graphics, 2 PCI,1 PCI Express x 1 and 1 PCI Bxpress x 16.		
(d)	<u>Memory</u> : 2 GB 533 MHz DDR2 RAM with minimum 4 total DIMM slots.		
(e)	<u>Hard Disk Drive</u> : 160 GB 7200 rpm Serial ATA HDD.		
(f)	<u>Monitor</u> : 19 inch TFT.		
(g)	<u>Keyboard</u> : 104 keys		
(h)	<u>Mouse</u> : Optical.		

Ser No	Specifications	Complied Yes/No	Deviation if any
(j)	Bays : 4 Nos (2 Nos 5.25 inches for optical Media Drives and 2 Nos 3.5 inches for Hard Disk Drives).		
(k)	Ports : 6 USB Ports (with at least 2 in front), 1 Serial Port, 1 Parallel port, 1 PS/2 Keyboard and 1 PS2 Mouse Port, audio ports for microphone and headphone in front.		
(l)	Cabinet : Mini tower.		
(m)	DMI : DMI 2.0 Compliance and Support.		
(n)	DVD ROM Drive : 8X or better DVD ROM Drive.		
(o)	Networking Facility : 10/100/1000 on board integrated Network Port with remote booting facility remote system installation, remote wake up.		
(p)	Operating System : Windows Vista Business preloaded with Media and Documentation and Certificate of Authenticity.		
(q)	OS Certifications : Win Logo Vista Business OS and Linux Certifications.		
(r)	Power Management : Screen Blanking, Hard Disk and System Idle Mode in Power On, Set up Password, Power supply SMPS Surge protected.		
(s)	Anti Virus : Norton Antivirus (Latest Version) with 3 years License.		
6.	<u>PRINTER LASER MONOCHROME</u>		
	Make : Model :		
(a)	Resolution – 600 x 600 dpi or better.		
(b)	Paper Size – A4.		
(c)	Printing Speed – 24 ppm or better.		
(d)	Network card – 10/100 with inbuilt duplexing.		
7.	<u>CENTRAL WEB-BASED APPLICATION SERVER</u>		
	Make : Model :		
(a)	The CENTRAL WEB BASED APPLICATION SERVER shall be a generic unit that is designed with a common firmware running all embedded applications. It shall be able to perform multiple tasks concurrently.		
(b)	At least a 32-bits CPU		
(c)	Have a minimum speed of 233 MHZ		

Ser No	Specifications	Complied Yes/No	Deviation if any
(d)	Support a communication port for remote dial-in via modem		
(e)	Support standard RS 485 Local Area Networking		
(f)	Support a Ethernet 10/100/1000 Base-T port		
(g)	Minimum hard disk storage space of 80GB		
(h)	Provide a true smart card type of secure access module to store an encrypted key for data encryption within the CPU board		
8.	<u>INTELLIGENT FIELD CONTROLLER (IFC)</u>		
	<u>Make</u> : <u>Model</u> :		
(a)	The IFC shall be a generic unit that is designed with a common firmware running all embedded applications. It shall be able to perform multiple tasks concurrently.		
(b)	At least a 32-bits CPU		
(c)	Have a minimum speed of 233 MHZ		
(d)	Support a communication port for remote dial-in via modem		
(e)	Support standard RS 485 Local Area Networking		
(f)	Support a Ethernet 10/100/1000 Base-T port		
(g)	Minimum of 128 Megabytes of Flash memory, upgradeable to 1 Gigabytes		
(h)	Minimum of 128 Megabytes of RAM		
(i)	Provide a true smart card type of secure access module to store an encrypted key for data encryption within the CPU board.		
(k)	Support up to 32 digital input monitoring channels for alarm monitoring. Each monitoring channel shall employ end-of-line sensing devices to detect against alarm and cable fault. Each input shall provide selection choice of 2-state or 4-state alarm monitoring. For 4-state monitoring, it shall be possible to detect cable short circuit or open circuit.		
(l)	Supports up to 32 channels of voltage-free relays for alarm signaling and on/off controls using form-C type of relays.		
(m)	Each IFC shall consist of at least one CPU board, one or two card readers' controller board, and/or one 8 channels input and output board, AC Line Filter, one regulated power supply unit with an optional on-line battery charger charging a single 12V 7AH maintenance-free backup battery		
(n)	Each card reader's controller board shall support at least 4 industry standard wiegand compatible reader interface ports. Each board shall also provide digital input interfaces to egress switches and door status sensors, and form-C relay output interfaces to door strikes, magnetic or electronic locks. All output relay shall be rated 24VDC @ 1 ampere with at least 2 spare relay circuits.		

Ser No	Specifications	Complied Yes/No	Deviation if any
(o)	The 8 channels Input and Output board shall provide 8 digital input channels to be connected to intrusion alarm sensors. The 8 form-C relay output channels shall be provided for alarm devices control.		
(p)	Additional Extension Unit shall be provided if additional doors or inputs/outputs are required.		
(q)	A modem port shall be provided for PSTN/dial-up or lease line operation. Dial-up operation shall use standard PPP protocols. Upon successful log-in, the accessing computer shall only require a standard browser program to operate, monitor or control it.		
(r)	The IFC's memory buffer shall be able to hold at least 20,000 past transactions when the controller is operating in a standalone mode (off-line mode)		
9.	<u>CARD PARAMETERS.</u>		
(a)	The IFC's database shall have a memory capacity for a minimum of 20,000 cardholders, each having a programmable 4 - 7 digits (Personal Identification Number) PIN codes.		
(b)	The PIN for each card number in the database shall be unique. The capacity of the card numbers in the database shall not be decreased due to the use of PIN for each card.		
(c)	Each cardholder shall be able to change his/her own PIN on the card reader itself without the needs of having it done by the system administrator at the central PC. Change of any cardholder's PIN code shall not affect the rest of the user's PIN codes.		
(d)	The card reader-controller shall be able to select 3 modes of operations, between "Card" only, "Card + PIN" or "PIN" only. It shall also be possible to program up to 8 sets of schedules (different start time and end time periods) per person everyday to be used for automatic activation of the PIN requirements as described earlier. To further enhance the security level, this mode shall be able to work differently during weekends or holidays by utilizing another set of schedules (time zones.)		
(e)	It shall be possible to allow a cardholder to carry only one card, where that card can function as a normal access card, or as an arm/disarm card, or as a time attendance card, or a combination of any of these functions. All cards shall be generic in nature and the IFC shall be able to reassign the function(s) of each card.		
(f)	Every card shall have a start and expiration date parameter, so that the card is valid on 'start date' and becomes void on the 'expired date'. This function allows a card to be issued to contract employees or contractors in advance.		
(g)	It shall be possible to assign a cardholder to a 2-person rule (alternatively known as dual-card group) and operate with the following security access control requirement:		
	(i) Any normal access cards may be assigned to a dual-card grouping. There shall be at least 255 dual-card groupings.		
	(ii) Card readers shall grant access based on dual-card rule for important access doors.		
	(iii) Card readers shall be able to change operational behavior automatically, from dual- card rule to single access rule; and then reverting back to dual-card rule; or remains at dual-card rule at all time.		

Ser No	Specifications	Complied Yes/No	Deviation if any
10.	<u>SYSTEM PARAMETERS.</u>		
(a)	Access Groups		
(b)	Each IFC shall have at least 254 programmable Access Groups. Each Access Group defines access for a particular group of doors associate with its own set of schedules (time zone groups) where a person can enter.		
(c)	Each cardholder shall be assigned a minimum of 2 access groups.		
(d)	Schedules (Time Zones)		
(e)	Each IFC shall have at least 255 weekly schedule (time zone) groups for all operations. Each schedule consists of at least 4 different start and stop time zone periods.		
(f)	These schedules (time zones) shall be usable for any or all of these applications:		
	(i) activating different card access operation modes		
	(ii) automatic locking/unlocking of doors		
	(iii) automatic arming/disarming of the intrusion monitoring modes		
	(iv) automatically control electrical equipments on and off		
(g)	It shall be possible to pre-program up to 64 holiday dates so that its operations will change automatically. It shall also adjust itself to leap year computations automatically and also GMT date/time reference.		
(h)	The IFC shall provide anti-pass back feature for a single reader or a group of readers as a standard feature.		
(j)	True anti-pass back shall be implemented with selectable forgiveness or non-forgiveness modes. In forgiveness mode, a cardholder shall be able to get out of the controlled area even if he/she forgets to use his/her card at the entry reader and instead followed someone in.		
11.	<u>DOOR PARAMETERS.</u>		
(a)	When a card reader reads a valid card, the IFC shall unlock the door for 3 seconds (shall be programmable from 3-255 seconds). For each handicap person, it shall be possible to provide extended door unlocking timings to facilitate their slower movement.		
(b)	A door ajar (partially open) alarm shall be generated if the door is held opened longer (example 1 minute, but programmable from 60 seconds to 255 seconds) than the allowed preprogrammed time. This alarm shall automatically be reset when the door is closed back.		
(c)	It shall be possible to control the locking/unlocking of doors automatically up to four time zone periods per day based on schedule (time zone) control. The card reader shall emit a beeping warning signal if the door is not closed at the end of the time where the door is supposed to be re-locked.		
(d)	Alarm Messaging Via Built-in Email :		
	(i) It shall be possible to select and send specific events, transaction(s) or alarms via integrated built-in email function. The email messaging shall be deployed using industry standard SMTP protocols.		

Ser No	Specifications	Complied Yes/No	Deviation if any
	(ii) Each email subject text message and body text message shall be user programmable in alphanumeric, just like normal email.		
(e)	It shall be possible to send any event or alarms generated throughout the systems and the following minimum events and alarms transactions shall be provided:		
	(i) any selectable events with location, date, time and the cardholder name such as access denied, invalid schedule and wrong PIN code used		
	(ii) any alarms indicating the location, date and time of occurrence		
	(iii) illegal log-in attempts via modem, date and time of occurrence		
	(iv) power failure and restore, date and time of occurrence		
	(v) alarm points being armed/disarmed, date and time of occurrence		
	(vi) door being forced opened or left opened, date and time of occurrence		
12.	<u>CENTRAL WEB-BASED APPLICATION SERVER AND SECURITY APPLICATION SOFTWARE REQUIREMENTS.</u>		
(a)	It shall be possible to use any type of computers, whether an Intel based PC, 'Apple Macintosh' computers or Unix OS based computers as the central monitoring computers to operate the CENTRAL WEB BASED APPLICATION SERVER or IFCs		
(b)	Any computer in regardless of its operating system version, such as Microsoft Windows 95, 98, NT, 2000, XP, Vista or Macintosh OS shall be able to operate the entire system.		
(c)	All application software shall reside on the CENTRAL WEB BASED APPLICATION SERVER, running on Red Hat Linux Operating System. All software shall be accessed, operated, monitored and controlled just by using standard web browser software with Java Virtual Machine installed (Microsoft Internet Explorer, Netscape Browser, or Mozilla Fire Fox Browser) at any central monitoring PCs.		
(d)	The CENTRAL WEB BASED APPLICATION SERVER shall support up to 25 users to operate, monitor and control the entire system concurrently.		
(e)	There shall be no need to install any software in the PC. When user logs in to the CENTRAL WEB BASED APPLICATION SERVER via a standard web browser software with Java Virtual Machine installed, user shall be able to operate the entire system, whether to view transaction activities, make changes to system operating behavior, add or delete cards.		
(f)	Up to 25 users shall be able to operate, monitor and control the CENTRAL WEB BASED APPLICATION SERVER, each with a unique ID and password. Up to a maximum of 8 concurrent users, the CENTRAL WEB BASED APPLICATION SERVER shall allow multiple users to log in and monitor activities, view alarms or administrate different database for different purposes, whether access control or alarm monitoring.		
(g)	<u>Security Application Software Functions:</u> The following application software functions shall be provided :-		
	(i) Administrators or users access rights setup		
	(ii) Password assign to all users and administrators		

Ser No	Specifications	Complied Yes/No	Deviation if any
	(iii) Centralized database backup of all the IFCs in the entire system		
	(iv) Centralized access control and alarm transactions monitoring and handling		
	(v) Remote control functions for access control, arming/disarming of alarm points and on/off controls from the CENTRAL WEB BASED APPLICATION SERVER		
	(vi) Centralized and local Alarm monitoring and alarm handling procedures		
	(vii) Centralized and local card database administration		
	(viii) Centralized and local report generation of transactions and audit trails		
	(ix) Global card formats setup		
	(x) Database Backup/Restore		
	(xi) Report generation of all events and alarms based on selection criteria		
	(xii) Security Log-In Access Rights & Setup		
	(xiii) A common or different administrators' log-in User ID and password shall be assigned to the CENTRAL WEB BASED APPLICATION SERVER.		
	(xiv) Any users or administrators shall have its own access rights to log in to the CENTRAL WEB BASED APPLICATION SERVER via separate web pages		
	(xv) Each user login session shall be encrypted and protected.		
	(xvi) It shall be possible to setup different access rights for each administrator and users to allow them access to the CENTRAL WEB BASED APPLICATION SERVER.		
	(xvii) The CENTRAL WEB BASED APPLICATION SERVER shall have its own set of web pages for parameters setup, monitoring or control purposes. It shall be able to assign its own set of administrator' log-in User IDs and passwords for overall system administration.		
	(xviii) Each IFC shall have its own set of web pages for system settings or manual control purposes.		
	(xix) The CENTRAL WEB BASED APPLICATION SERVER shall allow system administrators (who has access rights) to access to specific IFC' web pages without the needs to log in to those IFCs separately.		
	(xx) Any administrators shall have their own access rights to view limited or all databases or include rights to make changes at the CENTRAL WEB BASED APPLICATION SERVER.		
	(xxi) Any administrators shall have its own access rights to view the card database only or include rights to add or delete cards at the CENTRAL WEB BASED APPLICATION SERVER		
	(xxii) Any administrators shall have its own access rights to monitor transactions and alarms only, or include alarm handling at the CENTRAL WEB BASED APPLICATION SERVER.		
	(xxiii) Any administrators shall have their own access rights to remotely unlock doors at each IFC or via the CENTRAL WEB BASED APPLICATION SERVER.		
	(xxiv) Any administrators shall have its own access rights to view alarm monitoring status only or include rights to arm/disarm a point or group of points at each IFC or via the CENTRAL WEB BASED APPLICATION SERVER.		

Ser No	Specifications	Complied Yes/No	Deviation if any
	(xxiv) Any system administrators shall have its own access rights to control any relays on/off. Such relays are used to control any electrical devices or equipments at each IFC or via the CENTRAL WEB BASED APPLICATION SERVER.		
(h)	<u>Transaction Activity Viewing Functions.</u> The system shall provide multiple choices of View Modes :-		
	(i) <u>All Transactions View.</u> When a user selects this view, it shall display each and every transaction as it occurs in the system, consisting of normal as well as alarm transactions. For card access events, the transactions shall consist of the date and time of occurrence, door location, person's name and his or her card number.		
	(ii) <u>Alarm View.</u>		
	(aa) When a user selects this view, it shall only display alarm transactions.		
	(ab) For card access events, it shall consist of the date and time of occurrence, door location, person's name, his or her card number and the type of alarm.		
	(ac) For alarm monitoring function, it shall consist of the date and time of occurrence, intrusion location and the type of alarm.		
	(iii) <u>Restore View.</u> When a user selects this view, it shall display what alarm condition has been restored to normal state.		
(j)	<u>Remote control Functions:</u> All remote control actions shall be executed via specific web pages. Each control action shall be designed for minimum mouse clicks. Web pages shall show the current state of the devices and the state after a control action has been executed.		
(k)	<u>Locking & Unlocking of Doors.</u>		
	(i) User(s) shall be able to unlock and re-lock a door from web page directly. A door can be momentarily or permanently unlocked and re-locked.		
	(ii) The IFC shall generate a transaction indicating who has unlocked a door and date and time of his or her action.		
	(iii) All doors shall show its status on web pages, whether it's locked or unlocked.		
	(iv) It shall also be possible to execute this function without any limitation via modem dial-in remotely.		
(l)	<u>Arming & Disarming of Alarm Functions.</u>		
	(i) Users shall be able to arm/disarm the alarm monitoring functions via the card readers or web pages		
	(ii) Users shall be restricted to arm/disarm alarm zone(s) within their access rights only.		
	(iii) Transaction shall show who has armed or disarmed a specific alarm zone(s) and date and time of action.		
	(iv) It shall also be possible to execute this function without any limitation via modem dial-in.		
(m)	<u>Output Control Functions.</u>		
	(i) Users shall be able to turn on or off electrical equipments or devices, such as lightings, air-conditioning units, motors etc., via web pages		
	(ii) It shall also be possible to execute this function without any limitation via modem dial-in.		

Ser No	Specifications	Complied Yes/No	Deviation if any
(n)	<u>Alarm Handling Procedures.</u>		
	(i) Alarms generated by all IFCs shall be uploaded to the CENTRAL WEB BASED APPLICATION SERVER for prioritized alarm handling. Alarms generated at each IFC shall be acknowledged, processed and handled by operators at the CENTRAL WEB BASED APPLICATION SERVER's location.		
	(ii) When an alarm transaction is received, the computer shall generate an alarm tone to alert the operator. This audio alarm shall sound continuously until the alarm has been turned off by the operator.		
	(iii) The CENTRAL WEB BASED APPLICATION SERVER shall generate a transaction record in its memory for every alarm and restore conditions, which include.		
	(iv) Date and time of occurrence and restoration.		
	(v) Location of alarm sensors		
	(vi) Date and time of user's acknowledgement		
13.	<u>CENTRALIZED DATABASE ADMINISTRATION</u>		
(a)	It shall be possible to add or delete cards at the CENTRAL WEB BASED APPLICATION SERVER and assigned these cards to specified IFC. When a card is added or deleted, it shall be replicated immediately with the database at the respective IFC once a 'save' command is executed. There must not be a separate process requiring the operator to manually download these parameters through additional processes.		
(b)	A copy of each IFC's card database shall be stored in the CENTRAL WEB BASED APPLICATION SERVER for backup purpose. It shall be possible to restore the IFC's card database by a single mouse click operation from the CENTRAL WEB BASED APPLICATION SERVER when a faulty unit is being replaced		
(c)	Centralized Report Generation of Transactions and Audit Trails		
(d)	It shall be possible to generate any reports at the CENTRAL WEB BASED APPLICATION SERVER. All reports generations shall also be executed via web page command.		
(e)	<u>System Reports.</u>		
	(i) Reports generated at the CENTRAL WEB BASED APPLICATION SERVER shall include normal transactions, alarm Transactions, system parameters set up which includes all IFC's parameters set up.		
	(ii) It shall be possible to view the reports on computer screen first prior to printing.		
	(iii) The reporting program shall allow transaction report filter selection by		
	(aa) transaction types, event types or alarm types		
	(ab) date range selection		
	(ac) time period selection		
	(ad) operators' name		

	(ae) cardholder name		
Ser No	Specifications	Complied Yes/No	Deviation if any
(f)	The type of alarm reports shall include the following transactions :-		
	(i) the specific alarm point occurred, including date and time stamp		
	(ii) the specific alarm point description		
	(iii) action(s) taken by the operator in response to each specific alarm		
	(iv) response of the system upon actions taken by operator		
(g)	Database Reports. The reporting programs shall be able to generate the following database reports :-		
	(i) All card database reports per IFC		
	(ii) All global card database reports		
	(iii) All I/O alarm points reports		
	(iv) All card readers setup parameters reports		
	(v) All users' access rights' reports		
	(vi) All access groups reports		
	(vii) All schedules reports		
	(viii) All card formats reports		
(h)	Audit Trail Reports. Audit trial reports shall be available to provide the following minimum information :-		
	(i) All operators' log-in and log-out date and time stamp		
	(ii) The date and time stamp of each operator whenever the operator made a change in any of the database, including the exact changes made.		
	(iii) Global Card Formats Setup. The CENTRAL WEB BASED APPLICATION SERVER shall be able to program and setup to 16 different card formats globally Each card format template shall be programmable and only require the card number field, facility code (site code) field and parity bit pattern/location data fields to be entered.		
	(iv) Attendance Data Capture.		
	(aa) It shall be possible to setup card readers for the purpose of capturing of attendance data for 'date and time clock-in' and 'date and time clock-out' for staff or guards. Standard card readers with keypad similar to those configured for access control shall be able to perform these functions.		
	(ab) A separate web page shall be dedicated for this function and be able to view the date and time transactions occurred		
	(ac) It shall be possible to export transaction file in comma separated value file format (CSV file format) that is readable by Microsoft Excel programs for further processing.		

Ser No	Specifications	Complied Yes/No	Deviation if any
14.	<u>SPECIFICATION FOR CARD READERS WITH PIN PAD</u>		
	<u>Make</u> : <u>Model</u> :		
(a)	A 3x4 keypad which can provide supplemental PIN operation. The keypad shall provide the most popular industry formats including 4 bit or 8 bit bursts for every key press.		
(b)	The contactless smart card reader shall provide the ability to change operational features in the field through the use of a factory-programmed command card. Additionally, firmware may be updated by flashing the reader. Command card operational programming options shall include: (i) Output configurations (ii) LED & Audio configurations (iii) Keypad configurations		
(c)	Contactless smart card readers shall meet the following physical specifications: (i) Dimensions: 3.30" x 4.80" x .90" (8.38cm x 12.19 cm x 2.28 cm) (ii) Weight: 10oz (283.4 g) (iii) Material: UL94 Polycarbonate (iv) Three-part design with separate mounting plate, reader body, and cover. (v) Color: Black or Gray as approved by the project architect.		
15.	<u>SPECIFICATIONS FOR CONTACTLESS CARD</u>		
	<u>Make</u> : <u>Model</u> :		
(a)	The offered MIFARE cards shall be similar in size and thickness as standard credit cards or bank ATM cards.s		
(b)	The MIFARE cards shall operate on 13.56 megahertz		
(c)	Operating System : Mikron-Mifare		
(d)	Key Length :6 bytes (48 bits, symmetric key)		
(e)	Memory: 8 kilobits (1 Kbytes) of EEPROM & high speed CMOS, 16 sectors of 4 blocks memories. Each block is made up of 6 bytes.		
(f)	ISO Standard Compliance :10536 (Dimension)		
(g)	Communication speed: Operating frequency 13.56 Megahertz. I/O rate is 106 Kilo baud.		
(h)	Operating Distance: Minimum 6 -11 cm between antenna & card.		

Ser No	Specifications	Complied Yes/No	Deviation if any
16.	<u>SPECIFICATIONS FOR ELECTROMAGNETIC LOCK WITH POWER SUPPLY</u>		
(a)	Type - Electro-Magnetic		
(b)	Holding Force – 600 Lbs		
(c)	Mounting – Wooden Door/Glass with Metal Frame		
(d)	Mode – Fail Safe		
(e)	Operating Voltage – 12 Volt DC		
(f)	Finish – Aluminum Casing		
<u>CLOSE CIRCUIT SURVEILLANCE SYSTEM</u>			
17.	<u>GENERAL REQUIREMENTS</u>		
(a)	It is intended to purchase CCTV System to cover sensitive areas of KLP. The connectivity of all cameras shall be through cat 6 e.		
(b)	The CCTV system to be monitored from concerned officials at the central control room.		
(c)	The recording of video shall be at Central Control Room for 15 days . The system shall also provide capability of auto-archiving.		
(d)	The CCTV over IP (LAN) shall provide best quality video of 4CIF@25 frame/sec per camera and capability to record it.		
(e)	The bidder for completion of project shall provide all mounting installation etc.		
(f)	Possible applications is the monitoring and recordings of the scene of the Jurisdiction shall be helpful in case of enquiries etc. in establishing the truth.		
(g)	The requirement, calls for a complete working system and not components thereof. Bids must be complete with all equipment and required accessories along with necessary power systems including standard Un-interrupted Power Supply for the control room equipment, video connectors, patch connectors, patch leads, mounting and fitting hardware, plugs, sockets, and any hardware/software, etc. as required for complete installation of the System under this contract.		

Ser No	Specifications	Complied Yes/No	Deviation if any
(h)	Following authorizations shall be made available from the CCTV manufacturer :- (i) Technical compliance to the specifications and authorization for participating in the tender on manufacturer's behalf. (ii) Authorization for providing test reports complying the specifications at the time of inspection. (iii) Authorization that the items quoted by the bidder is in production and would be supported for service for at-least 8 years from the date of tender. (iv) The bidder should quote AMC rate after expiry of warranty period of 3 years for another 5 years. The rate should be quoted for next 5 years on yearly basis.		
(j)	Manufacturer must have sale and service setup in NCR.		
(k)	Manufacturer products shall have quality system compliance with the I.S./ISO 9001/EN 29001 and the equipments shall be CE and UL approved. Manufacturer of the software should be a CMMI level 5 Company		
(l)	All the equipment of external fitment should be IP-66/ NEMA-4 complied.		
(m)	Manufacturer must provide reference list of installation for similar products/ components at least two places.		
(n)	The warranty shall consist of repairing or replacing defective parts for a period of 1 year from the date of supply.		
(o)	All software and firmware upgrades shall be free of charge.		
(p)	All equipments shall be easy to integrate in 19" Racks with dedicated kits supplied by bidder.		
18.	<u>OUTDOOR DOME PTZ DAY NIGHT, IP CAMERA WITH 26 x ZOOM OR BETTER (UL APPROVED)</u>		
	<u>Make :</u> <u>Model :</u>		
(a)	Latest Imager 1/4" CCD or better		
(b)	Color Resolution 460 TV Lines or better for sharp pick up of live video.		
(c)	The camera should have minimum Color Illumination of 0.5 lux for Color 20 IRE and 0.005 Lux for B/W for deliverance of video captured in very low luminous environment/conditions.		
(d)	The lens should have the capability to focus on large areas, as well on small unidentified objects with a wide Focal Length of 3.5 to 90 mm with a optical field of view 55 degree to 3 degree		

Ser No	Specifications	Complied Yes/No	Deviation if any
(e)	The camera can be zoomed on to any suspicious object/human being with a minimum Optical Zoom of 26 X and digital zoom of 10 X with Day and night mode for mission critical application		
(f)	Pan Range 0 to 360 deg, continuous 24/7 application		
(g)	A hybrid IP Communication Module capable of capturing and storing images using MPEG-4 encoding and compression		
(h)	Deliver DVD-quality 4CIF video, at rates up to 30 images per second, via TCP/IP over Cat5/Cat6 UTP cable. The IP module leverages bandwidth throttling and multicasting capabilities to manage bandwidth and storage requirements efficiently while delivering the best possible image quality and resolution.		
(j)	Generate two independent MPEG-4 streams and a JPEG stream simultaneously. Allow streaming high-quality images for live viewing while recording at a reduced frame rate and, at the same time, stream JPEG images to a remote PDA device		
(k)	Support iSCSI devices to allow a network-enabled AutoDome to stream video directly to an iSCSI RAID array. Allow local video storage without streaming high bandwidth video across the network. System-recording performance is completely independent from network performance		
(l)	MPEG-4 compression at 4CIF/ Half D1/CIF/QCIF resolutions		
(m)	Video Resolution 704x576/480 (4CIF; 25/30IPS) 704x288/240 (2CIF; 25/30IPS) 464x576/480 (2/3 D1; 25/30IPS) 352x576/480 (1/2 D1; 25/30IPS) 352x288/240 (CIF; 25/30IPS) 176x144/120 (QCIF; 25/30IPS)		
(n)	Overall Delay (IP) MPEG-4: 100ms		
(o)	Network Protocols RTP, Telnet, UDP, TCP, IP, HTTP, IGMP, ICMP, ARP, SNMP,SMTP, Dynamic DNS, iSCSI		
(p)	Ethernet 10/100/1000 Base-T, auto sensing, half/full duplex, RJ-45		
(q)	The operator in the control room can manually control Pan Speed up to 120 Deg/Sec. The same should also be programmed as a preset up to 360 deg/sec for effective outdoor coverage with at least 90 presets or better		
(r)	Tilt Range - 5 to 90 deg with a tilt speed of 120 deg/sec for maneuverability in all directions		

Ser No	Specifications	Complied Yes/No	Deviation if any
(s)	The monitor should automatically display the area name for all the above 90 preset positions with minimum 16 characters for easy recognition of the operator.		
(t)	The camera can be programmed as per site requirement with Automatic scanning mode as programmed. There should be two such modes i.e. day and night.		
(u)	Multiple Alarm inputs of minimum 4. Intelligent Video application to perform certain pre – defined functions upon the receipt of the Alarm		
(v)	Universal Data Protocols to be supported		
(w)	Housing Outdoor (IP 66) Dome Housing vandal proof with heater and blower		
(x)	Input Voltage 230 V AC/50 Hz. Temperature Range - 10 to +50 degree , Relative Humidity of 95%		
19.	<u>PTZ IP CAMERA WITH 18 x ZOOM (UL APPROVED)</u>		
	<u>Make :</u>		
	<u>Model :</u>		
(a)	Latest Imager 1/4" CCD or better		
(b)	Color Resolution 460 TV Lines or better for sharp pick up of live video.		
(c)	The camera should have minimum Color Illumination of 0.5 lux for Color 20 IRE and 0.005 Lux for B/W for deliverance of video captured in very low luminous environment/conditions.		
(d)	The lens should have the capability to focus on large areas, as well on small unidentified objects with a wide Focal Length of 3.5 to 90 mm with a optical field of view 55 degree to 3 degree		
(e)	The camera can be zoomed on to any suspicious object/human being with a minimum Optical Zoom of 18 X with Day and night mode for mission critical application		
(f)	Pan Range 0 to 360 deg, continuous 24/7 application		
(g)	A hybrid IP Communication Module capable of capturing and storing images using MPEG-4 encoding and compression		
(h)	Deliver DVD-quality 4CIF video, at rates up to 30 images per second, via TCP/IP over Cat5/Cat6 UTP cable. The IP module leverages bandwidth throttling and multicasting capabilities to manage bandwidth and storage requirements efficiently while delivering the best possible image quality and resolution.		

Ser No	Specifications	Complied Yes/No	Deviation if any
(j)	Generate two independent MPEG-4 streams and a JPEG stream simultaneously. Allow streaming high-quality images for live viewing while recording at a reduced frame rate and, at the same time, stream JPEG images to a remote PDA device		
(k)	Support iSCSI devices to allow a network-enabled AutoDome to stream video directly to an iSCSI RAID array. Allow local video storage without streaming high bandwidth video across the network. System-recording performance is completely independent from network performance		
(l)	MPEG-4 compression at 4CIF/ Half D1/CIF/QCIF resolutions		
(m)	Video Resolution 704x576/480 (4CIF; 25/30IPS) 704x288/240 (2CIF; 25/30IPS) 464x576/480 (2/3 D1; 25/30IPS) 352x576/480 (1/2 D1; 25/30IPS) 352x288/240 (CIF; 25/30IPS) 176x144/120 (QCIF; 25/30IPS)		
(n)	Overall Delay (IP) MPEG-4: 100ms		
(o)	Network Protocols RTP, Telnet, UDP, TCP, IP, HTTP, IGMP, ICMP, ARP, SNMP,SMTP, Dynamic DNS, iSCSI		
(p)	Ethernet 10/100/1000 Base-T, auto sensing, half/full duplex, RJ-45		
(q)	The operator in the control room can manually control Pan Speed up to 120 Deg/Sec. The same should also be programmed as a preset up to 360 deg/sec for effective outdoor coverage with at least 90 presets or better		
(r)	Tilt Range - 5 to 90 deg with a tilt speed of 120 deg/sec for maneuverability in all directions		
(s)	The monitor should automatically display the area name for all the above 60 preset positions with minimum 16 characters for easy recognition of the operator.		
(t)	The camera can be programmed as per site requirement with Automatic scanning mode as programmed. There should be two such modes i.e. day and night.		
(u)	Multiple Alarm inputs of minimum 4. Intelligent Video application to perform certain pre – defined functions upon the receipt of the Alarm		
(v)	Universal Data Protocols to be supported		
(w)	Housing Outdoor (IP 66) Dome Housing vandal proof with heater and blower		

(x)	Input Voltage 230 V AC/50 Hz. Temperature Range - 10 to +50 degree , Relative Humidity of 95%		
Ser No	Specifications	Complied Yes/No	Deviation if any
20.	<u>CS MOUNT FIXED OUTDOOR DAY NIGHT, IP CAMERA WITH VARI-FOCAL LENS (UL APPROVED)</u>		
	<u>Make</u> :		
	<u>Model</u> :		
(a)	Latest Imager 1/3" CCD or better		
(b)	Color Resolution of 540 TV Lines or better for color camera capable of providing DVD quality over as IP LAN.		
(c)	The camera should have minimum Color Illumination of 0.5 lux for Color and 0.05 Lux for B/W for deliverance of video captured in very low luminous environment/conditions		
(d)	Video encoding on MPEG 4 with dual stream and one JPEG stream simultaneously		
(e)	The color camera will switch automatically from color to monochrome mode to provide enhanced night viewing. The camera comes complete with one of the following automatic iris, integral, varifocal lenses, as required by the application, to allow manual zoom and focus adjustment: (i) A 3 to 9 mm, F1.4-360. varifocal lens. (ii) A 3.7 to 12 mm, F1.6-360 varifocal lens.		
(f)	It should stream video directly to an iSCSI devices. System recording performance will be totally independent from network performance		
(g)	The camera dome should be prepackaged in a cast aluminum housing with a polycarbonate dome bubble, and a hardened inner liner capable of withstanding the equivalent of 120 lbs (55 kg) of force. The dome bubble should be clear polycarbonate material with a UV blocking anti-scratch coating.		
(h)	Wide Focal Length of at least 5 to 50 mm or better with auto IRIS control.		
(j)	The camera should support a snapshot mode that saves individual images from the video sequence, currently being displayed on the live view page, as JPEG format, 4CIF resolution images to a computer's hard drive		
(k)	The camera should also support recording function to save video sequences to the computer's hard drive. These saved images should then be viewed from the computer hard drive using an MPEG viewer provided by the manufacturer		

Ser No	Specifications	Complied Yes/No	Deviation if any
(l)	The camera video signals sent over the IP Network can be received abd displayed using any of the following methods : (i) A PC Camera browser (Microsoft IE browser version 6.0 or later) (ii) The OEM Video Management software program (VIDOS) running on windows 200/XP OS (iii) The OEM VIDOS running on a single PC for small systems or on separate PC's		
(m)	<u>Camera Settings On Screen Display for Camera programming.</u>		
	The camera should incorporate the following features: (i) It should extend the dynamic light range of the camera by 90db, and automatically processes the digital signal produced by the 15-bit digital signal process (DSP) technology to optimally, and simultaneously, capture the picture detail in both the highlight and lowlight areas to maximize the information visible in the picture. (ii) It should automatically activates under low light conditions to enhance the sensitivity of the camera by a factor of 3 when operating in monochrome night mode. (iii) SensUp to enhance sensitivity by increasing the integration time on the CCD by a factor of 10. (iv) Back Light Compensation (BLC) to selectively amplify an area of interest in the image to compensate for large contrast differences when only a portion of the image is brightly lit.		
(n)	Video Standards:MPEG-4, JPEG		
(o)	Frame Rates - 25/30 IPS		
(p)	Resolution - PAL 4CIF -704 x 576 2CIF- 704 x 288 half D1 -352 x 576 CIF -352 x 288 QCIF- 176 x 144		
(q)	The camera should support PoE (power on Ethernet)		
(r)	Gain: 20 dB (max.)		
(s)	Auto Black: On/off selectable		

Ser No	Specifications	Complied Yes/No	Deviation if any
(t)	Signal/Noise Ratio > 50 Db		
(u)	The video should be able to stream on Unicast, Multi-unicast and Multicast and a built in three user level of protection for web viewing where each level has it's own password and authorization		
(v)	White Balance ATW (2500 - 10000 K), AWB hold,		
(w)	The camera will have video authentication capability where all images are marked with visual indication of whether the image is original or manipulated		
(x)	Back light Compensation facility to be provided		
(y)	Temperature Range -10 degree to + 50 degree; Relative Humidity of 95%		
(z)	Mounting – In ceiling/Pipe Mount		
21.	<u>LCD PANEL FOR 24 X 7 APPLICATION (47")</u>		
	<u>Make</u> :		
	<u>Model</u> :		
(a)	The 47" LCD Panel should have the capability to operate 24/7 for monitoring/operations round the clock.		
(b)	High Definition resolution of 1920 x 1080		
(c)	178 degree horizontally and vertically viewing Angle		
(d)	RS 232 C in and out for control through touch panel or via computer		
(e)	The LCD Panel should also have three interchangeable slots for customization of inputs for future add-on applications		
(f)	Metal / Aluminium Construction to enhance thermal dissipation.		
(g)	Built in Thermostatic cooling fans to disperse heat built up in the system.		
(h)	RISC Based Microprocessor providing Instant - On, secure low maintenance & low power operation.		
(i)	Provision for Video Loop-in and Loop-out facility.		
(k)	Should be capable of portrait and landscape mode mounting.		
(l)	Should have temperature sensor.		
(m)	Should have PIP/PAP mode for showing Data/Video or Data/Data etc.		
(n)	Should have robust wall mount panels with adjustable angles.		

Ser No	Specifications	Complied Yes/No	Deviation if any
22.	<u>DIGITAL KEYBOARD FOR P/T/Z CAMERAS</u>		
	<u>Make</u> :		
	<u>Model</u> :		
(a)	Connectivity RS-232, RJ11 connections		
(b)	Joystick for P/T/Z Controls		
(c)	Display of LED/LCD Screen		
23.	<u>PC WORKSTATION FOR VIDEO MANAGEMENT SYSTEM (IBM, HP, DELL OR BETTER)</u>		
	<u>Make</u> :		
	<u>Model</u> :		
(a)	The PC provided shall be able to provide high graphics display and shall come pre-loaded with Video Management System Software from the manufacturer with DVD-Drive 52 x, PS/2 optical mouse and keyboard.		
(b)	Core 2 Duo with 1600 Mhz FSB 4 MB L2 Cache ., Intel 975X Chipset, Four DIMM slots support up to 8GB3 dual-channel DDR2 533 or 667MHz non-ECC and ECC memory or better		
(c)	OS Windows Vista Business preloaded with Media and Documentation and Certificate of Authenticity. HDD Interface IDE or better, RAM 2 GB or better, Free memory with 160 GB or better		
(d)	<u>Graphic Card</u> : NVIDIA GeForce FX 5700 Ultra, FX 5900 Ultra or FX 5950 Ultra, Matrox Parhelia, ATI RADEON 8500, 9500, 9800.		
(e)	<u>Ethernet Card</u> : Intel 10/100/1000 Mb/s Gigabit-Ethernet Network on board		
(f)	<u>Sound Card</u> : Internal AC-97 Audio-chip with Yamaha S-YXG50 Soft Synthesizer		
(g)	Hard drive controller Int. SATA 3.0Gb/s controller with support for RAID 0, 1, 5 and 10;		
(h)	<u>Antivirus</u> . Norton Anti virus (latest version) with 3 years licence.		

Ser No	Specifications	Complied Yes/No	Deviation if any
24.	<u>VIDEO MANAGEMENT & CONTROL SOFTWARE</u>		
(a)	The VMCS shall be a highly scalable enterprise level software solution. It shall offer a complete video surveillance solution that will be scalable from one to hundreds of cameras that can be added on a unit-by-unit basis. The VMCS shall operate on open architecture and should require no proprietary hardware.		
(b)	The VMOS shall provide the following: (i) Search for Video Server, transmitter or receiver and NVR available in the network (ii) Set up and dismantling of connections between cameras and monitors via drag and drop functions (virtual matrix) (iii) Several simultaneous live picture connections of camera in network (iv) Configuration of monitoring situation (site and workspace) (v) Programming of alarm triggered automatic events with customized configuration. (vi) System set up with limited operation options for clearly defined surveillance tasks (vii) Programming of automatic recording events on a NVR (viii) Remote maintenance of video server (ix) VMOS Shall be able to initiate streaming of recorded video on Decoder/Converter (x) Remote programming of PTZ dome camera functions		
(c)	The System should also be able to carry out following analytical function and generate alarm by using suitable algorithm. (i) Motion Detection alarm (ii) Snap shot of the Scene (iii) Sabotage of cameras like covering of camera, changed directions, blinding the cameras etc		
(d)	The VMCS shall display MPEG-2 and MPEG-4 video streams in real time.		
(e)	Each camera's bit rate, frame rate and resolution shall be set independently from other cameras in the system, and altering these settings will not affect the recording and display settings of other cameras.		

Ser No	Specifications	Complied Yes/No	Deviation if any
(f)	The VMOS shall allow: (i) Live display of cameras (ii) Live display of camera sequences (iii) Control of PTZ cameras (iv) Playback of archived video (v) Retrieval of archived video (vi) Instant Replay of live video (vii) Configuration of system settings		
25.	<u>NETWORK VIDEO RECORDER SERVER (IBM, HP, DELL OR BETTER)</u>		
	<u>Make :</u> <u>Model :</u>		
(a)	Two Quad Core Intel Xeon 2 GHz or better chipset with 2x6 MB cache or better.		
(b)	HDD Interface IDE, SCSI or better		
(c)	RAM Up to 2 GB or better. OS Microsoft Windows Server 2003 Standard Edition with 6 Client licenses or Linux with media and documentation.		
(d)	Ethernet Card Dual Onboard Intel Gigabit Ethernet with Load Balancing and Fail over Support		
(e)	CD Drive /DVD – RW		
(f)	HDD – 80 GB, 10000 U/min, 1” SMART 2 or better SCSI HDD		
(g)	Other features Onboard Single channel Ultra 320 SCSI Controller Hot-plug HDD, redundant Hot-plug fan. 1 internal Hot-plug SCSI HDD 2 U mounting		
(h)	<u>Antivirus.</u> Server edition with media and 3 year licence.		
26.	<u>NETWORK VIDEO RECORDER SOFTWARE (NVR)</u>		
(a)	The NVR shall support recording of MPEG-2 and MPEG-4 source simultaneously. It shall support recording of video and audio. The NVR shall support triplex applications, recording, re-play and backup simultaneously. It shall be compatible with windows OS or Linux for highest performance and reliability. The NVR shall operate on open architecture and should require no proprietary hardware.		
(b)	The NVR should support minimum 70 Mbps of video and audio data. The NVR shall be able to record up to 32 video streams simultaneously. It shall be accessible		

	from any PC connected to the network.		
Ser No	Specifications	Complied Yes/No	Deviation if any
(c)	The NVR shall provide Network Time Server function to ensure the synchronisation of the Video Servers and the recordings. The only signal connection to the NVR shall be the network connection so that the NVR can be placed at any location which has network access. There shall be no video coax connections to the NVR.		
(d)	The NVR can receive alarms of different types from Video Servers to start a recording. These alarms can be motion detection, video loss, and unified picture, trigger input. The NVR alarm recording shall support pre-and post-alarm periods. Both can be configured in duration.		
(e)	The NVR provide a status of the available recording capacity, as well as an indication of the remaining possible recording time.		
(f)	Fault tolerant recording. Should the NVR operation be interrupted, for example by power disconnection, once the NVR is restarted, it shall automatically resume recording of any cameras it was recording prior to the interruption.		
(g)	Search & Export. It shall be possible to search for recordings in the NVR by camera, date and time. If a date and time is specified, playback shall commence from that date and time. It shall be possible to playback more than one camera simultaneously.		
(h)	The NVR shall be able to export sections of recordings to a separate Windows folder, which can then be written to CD-ROM, DVD-ROM or tape media to be played back at a location not connected to the NVE network. The export process should make available a player		
27.	<u>RAID 5 HDD STORAGE (EMC2, INFOTREND, DELL, HP, IBM OR BETTER)</u>		
	<u>Make :</u> <u>Model :</u>		
(a)	Should be an independent unit from NVR		
(b)	The Hard disk storage system shall have dual SCSI host interface and dual-redundant power supply, two cooling fan modules. It shall have 400 MHz RISC processor with 256 KB embedded L2 Cache. It shall possess ASIC 133 hardware XOR engines with ECC support, with standard 128-1 GB cache memory in on SDRAM. Should possess the capability of voltage and temperature self-monitoring and with 32 KB NVRAM with RTC (Real Time Clock)		
(c)	The system shall comprise of RAID 5 Controllers with hard disks of at least 1 TB of hard disks or more		
(d)	LED indicators, audible alarms and manager software shall monitor fan, power and disk drives.		

Ser No	Specifications	Complied Yes/No	Deviation if any
(e)	DDR cache memory : 256MB Dual-stacked VHDCI SCSI ports 2 LCD keypad panel 1 COM ports 2 10/100/1000 Ethernet port 1 Diagnostic LEDs on all FRUs Yes		
(f)	RAID Configurations RAID levels 0, 1(0+1), 3, 5, 10, 30, 50, JBOD Max. 128 logical drives Multiple array configurations Automatic background rebuild		
(g)	Management Software should be able to control and program the RAID unit		
(h)	OS Support Microsoft Windows NT Microsoft Windows 2000 Server Microsoft Windows 2003 Server Sun Solaris ver. 8/9 Red Hat Linux ver. 8/9, Enterprise ver. 3 SuSE Linux ver. 8/9		
28.	<u>ARMORED POWER CABLE</u>		
(a)	Type of Cable: Armored, 3 cores, voltage of 1100 V, with conductor size of 2.5 (sqmm) annealed bare copper as per IS 8130/1984 with 7 strands of 0.67 mm each		
(b)	Insulation Material: 5831/1984, PVC, Type-A as per IS , with thickness 0.71 (min)		
(c)	Sheath Material: PVC, ST-1 as per IS 5831/1984		
(d)	Armoring Size: 1.4mm as per IS 3975		
(e)	Outer sheath Material: PVC, ST-1 as per IS 5831/1984		
(f)	Applicable Standard: IS 1554, Part – I/88		
(g)	Conductor Resistance: <7.410 ohms/KM at 20 Deg C.		
(h)	Insulation Resistance: >100M Ohms		
29.	<u>ONLINE UPS, 6 KVA WITH 1 HOUR BACKUP AND SMF (LIBERT, APC OR BETTER)</u>		
	<u>Make :</u>		
	<u>Model :</u>		
(a)	Output Power 6KVA /4.2KW		
(b)	Nominal Out Put Rating 230 VAC		

Ser No	Specifications	Complied Yes/No	Deviation if any
(c)	Out Put Voltage Regulation+/- 2%		
(d)	Out Put Voltage Distortion with 100% Liner Load<3%		
(e)	Nominal Out put Frequency 50 Hz		
(f)	Out Put Frequency Tolerance(O phase Locked with Mains) 47.5 Hz		
(g)	Overload at 0.7pf load in transferred to by pass afterpre- determined time 150% for 5 sec		
	<u>INPUT RATING</u>		
(h)	Nominal Input Voltage 230 VAC		
(j)	Permissible Input Voltage Variation at full Load 165-265 VAC		
(k)	Nominal Input Voltage Variation 50 Hz		
(l)	Permissible Input Voltage Variation 47.5 Hz to 52.5 Hz		
(m)	Power Factor at Full Load >0.8		
	<u>Battery Details</u>		
(n)	Nominal DC Bus Voltage 192 VDC		
(o)	Type of Batteries Supported : sealed Maintenance Free (SMF)		
(p)	Recharge Time UP TO 100%Capacity – 12 Hrs		

DESKTOP IP BASED VIDEO CONFERENCING SYSTEM

Ser No	Specifications		Complied Yes/No	Deviation if any
30.	<u>SPECIFICATION FOR MULTI POINT VIDEO CONFERENCING SYSTEM</u>			
	<u>Make :</u>			
	<u>Model :</u>			
(a)	<u>Video</u>			
	(i) <u>Standards</u> H.261, H.263, H.263+, H.263++, H.264, H.263 Interlaced SIF, MPEG-4 SP@L3			
	(ii) <u>Resolution</u> QCIF (176 x 144), CIF (352 x 288)			
	(iii) <u>Frame Rate</u> Max. 30 frames/s			
	(iv) <u>Bit Rate</u> Up to 768 Kb/s in H.320 (Incl. audio) - Optional Up to 2 Mb/s in H.323 (Incl. audio) - Standard			
(b)	<u>Audio</u>			
	(i) <u>Bandwidth and Coding</u> G.711: 3.4 kHz at 56/64 Kb/s G.722: 7.0 kHz at 48/56/64 Kb/s G.722.1: 7.0 kHz at 24/32 Kb/s (H.323) G.728: 3.4 kHz at 16 Kb/s G.723.1: 3.4 kHz at 5.3/6.3 Kb/s (H.323) G.729: 3.4 kHz at 8 Kb/s (H.323) MPEG-4 AAC (mono) 14 kHz at 64/96 Kb/s (H.323) at 48 Kb/s (H.320)			
(c)	<u>Integrated Display</u>			
	LCD	20" Wide screen TFT		
	Aspect ratio	16:9		
	Resolution	1280 x 768 (WXGA)		
	Brightness	400 Cd/m2 (max.)		
	Response	Less than 15 ms		
	Contrast ratio	500:1		
	Viewing angle	Greater than 160°		
	Colors	16.7 million		
(d)	<u>Graphics (Optional)</u>			
	XGA	1024 pixels x 768 lines (H.263)		
	4CIF	704 pixels x 576 lines (H.261 Annex D, H.263)		
(e)	<u>Picture-in-Picture</u>			
	Sub screen size	4.3" (256 x 192), One of four corners		
(f)	<u>Picture-and-Picture (1)</u>			
	Main screen size	17.3" (1024 x 768)		
	Sub screen size	4.3" (256 x 192), Located at upper-right corner of display		
(g)	<u>Picture-and-Picture (2)</u>			
	Main/Sub screen size	10.8" (640 x 480), Side-by-side		
(h)	<u>ITU-T Standards (excludes audio/video standards)</u>			
	H.320, H.323, H.221, Bonding , H.281 FECC H.225.0, H.245, T.120			

Ser No	Specifications		Complied Yes/No	Deviation if any
(j)	<u>Network Protocols</u>			
	TELNET (Server), HTTP (Server), FTP (Server), SNMP (Agent) DNS (Client), DHCP (Client), RTP/RTCP, TCP/UDP			
(k)	<u>Multipoint Capabilities</u>			
	Up to 6 sites (H.320/H.323)-H.323 Supplied Up to 10 sites (H.320/H.323) -Optional			
(l)	<u>Lip Synchronization</u>			
	Manual On/Off			
(m)	<u>Integrated Camera</u>			
	Image device	1/3 type CCD		
	Horizontal resolution	450 TV lines		
	Focal length	4.0 mm (F2.0)		
	Focus	Pan Focus		
	IRIS	Auto (Digital AGC)		
	Zoom ratio	x2 (Digital zoom)		
	Pan angle	-35° to +35° (Digital)		
	Tilt angle	-26° to +26° (Digital)		
	Preset	Up to 6 positions		
	S/N	48 dB		
	Others	Back light compensation, Auto white balance		
(n)	<u>Integrated Microphones</u>			
	Frequency response	15 kHz Unidirectional x 2		
(o)	<u>Integrated Speakers</u>			
	Output	3 W x 2		
(p)	<u>Remote Commander</u>			
	Format	Wireless SIRCS		
(q)	<u>Interface</u>			
	Video (for offline use only)	Composite input, RGB input, D-Sub 15		
	Audio	External microphone input (Plug in power) External headphone output (mini-jack)		
	Audio (for offline use only)	Line input (Stereo), RCA x 2, Line input (Stereo), mini-jack		
	Network	10Base-T/100Base-TX, External ISDN Unit I/F		
	I/F	Dedicated D-Sub 15		
	Memory Stick	Memory Stick slot		
(r)	<u>General</u>			
	Operating temperature	5 °C to 35 °C		
	Operating humidity	20% to 80%		
	Storage temperature	-20 °C to +60 °C		
	Storage humidity	20% to 80%		
	Power Requirements	AC 120 V (UC), AC 220 V to 240 V (CE), 50/60 Hz		
	Power Consumption	DC 19.5 V, 7.7 A		

Ser No	Specifications		Complied Yes/No	Deviation if any
31.	<u>SPECIFICATIONS OF POINT-TO-POINT DESKTOP VIDEO CONFERENCING SYSTEM</u>			
	<u>Make</u> :			
	<u>Model</u> :			
(a)	<u>Video</u>			
	Standards	H.261, H.263, H.263+, H.263++, H.264, MPEG-4 SP@L3		
	Resolution	QCIF (176 x 144), CIF (352 x 288)		
	Frame rate	15 or 30 frames/s		
	Bit rate	Up to 2048 kb/s in H.323 (Incl. audio)		
(b)	<u>Audio</u>			
	Bandwidth and coding	G.711: 3.4 kHz at 56/64 kb/s G.722: 7.0 kHz at 48/56/64 kb/s G.728: 3.4 kHz at 16 kb/s G.729: 3.4 kHz at 8 kb/s MPEG4 AAC (mono) 14 kHz at 64/96 kb/s		
	Echo cancellation	Built-in noise suppressor		
(c)	<u>Integrated Display</u>			
	LCD	17.1-inch Widescreen*		
	Resolution	1280 x 768 (WXGA)		
	Response	13 ms		
	Contrast ratio	600:1		
	Horizontal viewing angle	176°		
	Colors	16.7 million		
(d)	<u>Graphics (Optional)</u>			
	XGA	1024 pixels x 768 lines (H.263), with PCSA-DSM1		
	4CIF	704 pixels x 576 lines (H.261 Annex D, H.263)		
(e)	<u>Screen Layout</u>			
	Full screen	17.1-inch Full-screen (1280 x 768) display		
	Picture-in-Picture	Sub screen size (256 x 192), One of four corners		
	Picture-and-Picture(1)	Main screen size (1024 x 768) Sub screen size (256 x 192), Located at upper right-corner of display		
	Picture-and-Picture (2)	Main/Sub screen size (640 x 480), Side-by-Side Split Screen		
(f)	<u>ITU-T Standards (excludes audio/video standards)</u>			
	H.323, H.225, H.281 FECC, H.245, H.239, H.235, H460.18, H.460.19, H.350			
(g)	<u>Network Protocols</u>			
	TELNET (Server), HTTP (Server), FTP (Server), SNMP			

	(Agent) DNS (Client), DHCP (Client), RTP/RTCP, TCP/UDP, ARP			
Ser No	Specifications		Complied Yes/No	Deviation if any
(h)	<u>Control Port</u> LAN (Telnet), RS-232C			
(j)	<u>Lip Synchronization</u> Manual On/Off			
(k)	<u>Security</u> H.235 Sony Proprietary AES Encryption, Password Protection			
(l)	<u>Network Features</u>			
	QoS (Quality of Service)	ARC (Adaptive Rate Control), Real-time ARQ (Auto Repeat reQuest), IP Precedence, DiffServ		
	NAT	Network Address Translation		
(m)	<u>UPnP</u> Universal Plug and Play			
(n)	<u>Integrated Camera</u>			
	Image device	1/3.8-type CMOS		
	Total number of pixels	Approx. 1.33 million pixels		
	Number of effective pixels	Approx. 1.28 million pixels		
	Picture Format	4CIF		
	Focal length	2.1 mm (F2.4)		
	Focus	Pan Focus		
	Zoom ratio	x 3 (Digital)		
	Horizontal viewing angle	Approx. 87°		
	Presets	Up to 6 points		
	Others	Backlight compensation, Auto white balance		
(o)	<u>Integrated Microphone</u>			
	Frequency range	14 kHz, Narrow-angle directional microphone		
(p)	<u>Integrated Speakers</u>			
	Output			
(q)	<u>Interface</u>			
	Video	RGB input, mini D-Sub 15-pin x 1		
	Audio	External microphone input (mini-jack, plug in power) x 1 External headphone output (stereo mini-jack) x 1		
	Network	10Base-T/100Base-TX x 1		
	Memory Stick	I/F Memory Stick slot x 1*** PCSA-DSM1 Interface Dedicated connector x 1 RS-232C D-sub 9-pin x 1		
(r)	<u>General</u>			
	Operating temperature	5 °C to 35 °C (41 °F to 94 °F)		
	Operating humidity	20% to 80%		
	Storage temperature	-20 °C to +60 °C (-4 °F to + 140 °F)		
	Power Requirements	AC 100 to 240 V, 50/60 Hz		
	Power Consumption	DC 19.5 V, 6.15 A		

Ser No	Specifications		Complied Yes/No	Deviation if any
32.	Others			
(a)	Manufacturers Authorization	Bidder should enclose Tender Specific Manufacturers Authorization letter. General Dealership/Distributorship Certificate will not be valid and would lead to rejection of Bid		
(b)	Manufacturers Presence	Manufacturer should have had direct presence in India for a minimum period of 10 years. Proof to be enclosed.		

Appendix 'B'

(Refers to Paragraph 1 of B/03566/DGIS-KLP/SW/DDG IT (Projects) dated Dec 2008)

**LIST OF DOCUMENTS, WHICH WILL ALSO BE SUBMITTED
ALONG WITH THE TECHNICAL BID**

1. Detailed technical write-up highlighting the features of the system offered.
2. Technical manuals/literature/pamphlets of products offered.
3. Information on the upgrade path for the system offered.
4. Details of all components of the system offered to include make, model, and revision no, performance details.
5. Deviation statement giving out the deviations from the specifications given in this tender, if any.
6. Any other document relating to the product that the vendor may feel necessary to support the product offer.