

HIGH COURT OF UTTARAKHAND AT NAINITAL

TENDER NOTICE

Dated: June 11, 2012

Sealed superscripted tenders are invited in two bid system for supply, installation, commissioning, operation and maintenance of IP based CCTV Surveillance System for the purpose of security, monitoring and recording within the High Court of Uttarakhand Complex at Nainital & the complex of subordinate Courts of High Court of Uttarakhand at district Almora, Dehradun, Nainital, Bageshwar, Chamoli, Champawat, Tehri Garhwal, Pauri Garhwal, Rudraprayag, Udham Singh Nagar , Pithoragarh, Uttarkashi & Haridwar

The detailed specifications, conditions and tender form can be downloaded from the Uttarakhand High Court website: <http://highcourtofuttarakhand.gov.in> or can be received from the High Court of Uttarakhand, Nainital. Interested parties may physically visit the sites from **25.06.2012 to 06.07.2012** after prior approval of Registrar General.

Date of commencement of issue of tender document:	13.06.2012,
Last date for receipt of Bid submission:	30.07.2012, 03:30 PM
Opening of Technical Bid documents:	30.07.2012,
Earnest Money Deposit:	₹ 2,00,000/- (two lacs only)

Financial bid of only those tenderer(s) will be opened, as the High Court may decide, after consideration of the technical bids. The High Court reserves its right to accept or reject any or all tenders, at its sole discretion, without assigning any reason whatsoever.

Sd/-
Registrar General

HIGH COURT OF UTTARAKHAND AT NAINITAL

**BID FOR SUPPLY, INSTALLATION, COMMISSIONING, OPERATION AND MAINTENANCE
OF IP BASED CCTV SURVEILLANCE SYSTEM**

1.	Name & address of the tenderer.	
2.	Brief details of similar projects undertaken by the tenderer; and the order value thereof.	
3.	Turn over of the tenderer during the last three financial years:	
4.	Details of offices of the tenderer in Nainital/Haldwani/U.S. Nagar/Haridwar/Dehradun/Delhi	
5.	Details of service centers of the tenderer in Delhi/Haldwani/Nainital	
6.	Earnest Money Deposit: D.D./ P.O. No.	

Place:

Date:

Signature of the Tenderer.

Request for Proposal (RFP) for IP BASED CCTV Surveillance System for the High Court of Uttarakhand Complex at Nainital & the complex of subordinate Courts of High Court of Uttarakhand at district Almora, Dehradun, Nainital, Bageshwar, Chamoli, Champawat, Tehri Garhwal, Pauri Garhwal, Rudraprayag, Udham Singh Nagar , Pithoragarh, Uttarkashi & Haridwar

Introduction: High Court of Uttarakhand is looking for a Complete Solution to accomplish requirements of Security Surveillance with latest technology along with available migration path to emerging technologies in a future.

This RFP is against the requirement for Establishment of a State of the Art System with OFC Network & a highly secure IP based CCTV Surveillance system for the purpose of Security, monitoring and recording within the High Court of Uttarakhand complex at Nainital & the complex of subordinate Courts of High Court of Uttarakhand at Almora, Dehradun, Nainital, Bageshwar, Chamoli, Champawat, Tehri Garhwal, Pauri Garhwal, Rudraprayag, Udham Singh Nagar , Pithoragarh, Uttarkashi & Haridwar

Vender has to submit proposed solution both, wired and wireless (wi-max) technology. High Court will select best suited solution after demonstration and feasibility.

Interested parties may send their tenders in two separate sealed covers, subscribing one as “ TECHNICAL BID” AND OTHER AS “ FINANCIAL BID” FOR CCTIV SURVEILLANCE SYSTEM addressed by the name of the undersigned so as to reach on or before **30.07.2012** up to 03:30 PM. The technical and financial bid should be sealed by the bidder in separate cover/duly superscribed and both these sealed covers will put in a bigger cover which should also be sealed and duly superscribed. Technical bids will be opened on **30.07.2012** in the High Court of Uttarakhand. There will be demonstration of proposed solution in the High Court of Uttarakhand by the firm **03.08.2012** (the demonstration will be part of Technical Bid). Financial bids of firm found suitable on evaluation of technical bid, will be opened subsequently. The High Court of Uttarakhand will have all freedom and right in evaluation of technical bid.

1. SCOPE OF WORK:

Vendor has to take up the contract on turnkey basis, i.e. procurement, installation, commissioning operation and maintenance of IP BASED CCTV SURVEILLANCE system as per following details:

1. Installation of cameras (PTZ and Fixed) cameras including poles as required & with suitable mounting arrangement in a Vandal Proof Housing. The requirement of number of cameras may increase at the time of placing order or in future.
2. Laying, terminating & connecting Single mode Optical Fiber Cable (OFC) in star topology with redundancy between cameras & control room.
3. Establishing control rooms for configuration, operation, monitoring & maintenance with high resolution 21" LCD display having workstation with of 32"/42" LCD/Plasma Display each for Monitoring purpose has to be setup. & joystick based zoom control for camera for configuration of minimum 42 Cameras. Alternate monitoring at another Location having additional 21" monitor with desktop PC for individual camera for full view. High Court of Uttarakhand & Subordinate Courts of High Court will provide control room location and facilities.
4. Installation, configuration & customization of video software. The software package will support up to 2 x 64 cameras at a time from the Main Control Room and Alternate Control Rooms respectively.
5. Installation & commissioning Digital Video Storage (NAS), Desktop PC, Workstations, Switches, Weather Proof Panel box for cameras, Industrial grade outdoor Switches, Fiber Laying & Termination, LAN/Power cables, UPS, poles for camera, Power to camera and weather proof enclosure and Surge & lightning protection for each camera etc.
6. Training: - Vendor will provide training of Minimum 1 Month to a team of 05-10 Persons from High Court Security Staff Team & Subordinate Courts Security Staff Team for Surveillance Monitoring and maintenance.
7. Alarm system for security alert.

2/1 SYSTEM DESCRIPTION:

1. GENERAL SYSTEM DESCRIPTION AND OVERALL REQUIREMENTS Remote Camera based monitoring system, which shall consist of :
2. A Combination of Network Surveillance Colour IP cameras located all over the campus at the identified locations. The cameras will be of Pan/Tilt/Zoom(PTZ) type and balance will be fixed type.

3. Reception of the digital video from all cameras at the Control room called Central Monitoring Station (CMS) and additional stations over Web Browsers. CMS should have computer with customized software for all two-way control system, monitoring on all LCD display, data logging and recording of the operation on the CMS as well as the Network Attached Stored (NAS) at Central Monitoring System.
4. On line computer display of Individual camera video on large screen
5. Archival of sub framed rate or full frame digital video of all or selected camera(s) in computer disks. On line replay capability from NAS and/ or Selected Backup disks for a period up to 30days.
6. Back-up Archival of video from Main workstation HDD to NAS & Blue Ray along with reload facility.

2/2 OPERATIONAL FLEXIBILITY OF THE SYSTEM :

1. On line replacement of malfunctioning camera + technical redundant infrastructure, Switches without affecting overall system
2. Expansion of system should be possible with software setting at monitoring station by adding camera. Vendor shall provide information on maximum camera capacity of video software. Video software must support maximum number of cameras.
3. Relocation of camera units within radius of 20 meters without any change of hardware. Physical changeover and civil work charges, if any, can be paid at actuals.
4. Remote maintenance & diagnostic of any kind of fault for all camera & network should be possible and remote maintenance also be possible. Camera failure history should be in work station/PC based Monitoring Software Logs.

3/1 DETAILED ITEM-WISE SPECIFICATIONS:

IP-NETWORK PTZ CAMERA / Make: UL and EN approved Sony/Axis/Honeywell/pelco

1. Camera type : Colour IP-Network PTZ Camera with inbuilt LAN connectivity having night vision facility.
2. Sensor type : 1/4" CCD, 400000 (752x582) pixels or better
3. Resolution : Horizontal Minimum 530 TVL or more (PAL), 4CIF, 2CIF, CIF, 704x480 (NTSC), 704x576 (PAL)
4. Video compression : M-JPEG/MPEG-4 (H.264 desirable) Frame Rate : Up to 30/25 FPS video in 4CIF or better
5. Pan angle : 360° Deg endless
6. Tilt angle : 0° to 90°
7. F-number : 1.6 (wide) or better
8. Viewing angle : 48° (wide) minimum
9. 10 Optical zoom : 35x , Focal length: Max. focal length should be 115mm or more
10. Illumination : Colour: 1.0 lux, B/W: 0.2lux (minimum) or better at 50 IRE
11. White balance : Auto/Manual
12. Aperture/Iris : Auto/Manual, with AGC
13. Day/Night functions : Auto/Manual (IR Illuminators for better picture quality at low night)
14. Interface : Ethernet 10BaseT/100BaseTx. RJ45 port
15. Configurability : From central server/computer through Ethernet/LAN/Wi-Fi with password Authentication
16. Camera controls : From central server/computer through Ethernet/LAN/Wi-Fi including PTZ Function
17. Enclosure : Outdoor, weatherproof, vandal proof, clear dome type, industrial grade & compliant to IP66 with internal power supply, fan, heater and blower.
18. Temperature/Humidity: 0° C to 50° C, 85% RH (non-condensing)
19. Power supply : 230 volts AC, 50 Hz, Mains or Original DC adaptor supplied by manufacturer and/or PoE support
20. Others features : PTZ preset positions (20 min.), video motion detection, event/alarm trigger with pre & post recording facility, dual video streaming, multicasting.
21. Protocol supported : RTP/IP, UDP/IP, TCP/IP, multicast IP, DNS and DHCP client,
22. TELNET
23. ONVIF : Alongwith the Camera shall conform to the ONVIF (Open Network
24. Video Interface Forum) specification.
25. Electrical Safety: Built-in surge and lightning protection.
26. Alarm: Camera Tamper Detection.
27. Updating: Remote firmware updates.
28. IP-NETWORK FIXED CAMERA. (42 Nos.) Make Sony/Axis/Level one/Honeywell/pelco
29. Fixed Day and Night Full HD/1080p Colour IP Camera
 - Image Sensor: 1/3" 2 Mega pixels Progressive Scan CMOS Sensor
 - Picture Elements / Video Resolution 1920(H) x 1080(V)

- Shutter Speed 1~ 1/50000 sec.

3/2 .Alternate Camera specification: Box type IP Day/Night Camera

1. UL listed 1/3” high resolution and high performance IP network Fixed day/night 530 TVL with dynamic features of more sharper and more detail image provider suitable for following CS Mount 5-50 mm varifocal auto-iris lens.
2. Latest Imager 1/3” CCD or better
3. The IP Camera should have Color Resolution of 530 TV lines or better for sharp pick up of live video;
4. Depending on the available light, the camera should automatically switch from color to monochrome which should provide high-quality images even in challenging low-light conditions;
5. Minimum Color illumination of 0.25 lux for Color and 0.15 Lux for B/W for deliverance of video captured in very low luminous environment/conditions;
6. Use MPEG-4 compression, with controllable frame rate and bandwidth to efficiently manage bandwidth and storage requirements while delivering the best image quality and resolution;
7. Support bi-directional Audio, with Line In/Out phone jack connection;
8. The following video resolutions should be configurable by the operator/administrator for ease of viewing/operations optimize bandwidth in following:
 1. 704x576 (4 CIF)
 2. 704x244 (2 CIF)
 3. 352x244 (CIF)
9. Support Network Protocols IPv4, HTTP, TCP, RTSP, RTP, UDP, ARP, DNS, RTCP, FTP, ICMP, DHCP, Bonjour, IGMP;
10. Network connectivity Ethernet, 10/100/1000 Base T, Auto Sensing;
11. One alarm input and one relay output and can be configured and operated from central software;
12. If the controlling PC (equipped with the remote monitoring software) fails, then the camera Encoder’s built in web server should enable any PC on the network to monitor camera for mission critical application;
13. Wide Focal Length IR corrected lens of at least 5 to 50 mm or better with auto IRIS control;
14. Automatic Electronic Shutter with speed ranging from 1/50 to 1/100,000 sec (PAL) and controllable as Auto/Manual;
15. Settings on Screen Display for Camera programming;
16. Signal/Noise Ratio > 50 Db or better;
17. AGC ranging from 10-30 dB or better;
18. White Balance ATW (2800 -8000K), and other modes like User Fixed (preset – 4700 K), AWC(Auto or Manual), Fluorescent (4200 K), MWB (Manual Mode), Indoor (3200 K), Outdoor (6300 K) or better;
19. Back light Compensation off/on selectable;
20. UL approved;
21. Accept options of 12VDC or 24 VAC as input power and at the same time also be PoE 802.3af compliant and;
22. Camera Tamper Detection.

3/3 Lens type :

1. C/CS mount Lens 3.5 mm ~ 8mm with DC Auto Iris support,
2. Full HD and IR Corrected Minimum illumination 1 Lux @ F2.0

3/4 Video Compression H.264 Main Profile/MJPEG

1. Video Streaming Dual H.264
2. Simultaneously H.264 + MJPEG
3. Resolution H.264: 1920x1080, MJPEG: 1920x1080
4. Frame Rate H.264 : @ 25/30 fps
 - MJPEG: @ 25/30 fps
 - 30/25 FPS @ HDTV/ SVGA/ VGA/ QVGA,
 - 30/25 FPS @ UXGA at both H.264/ MJPEG resolutions
 - HD w/ Dual Streams & Full-HD w/ Single Stream
5. Video Control Multi-Stream H.264 and Motion JPEG, controllable frame/ bit rate (bandwidth),VBR / CBR control , RTSP Path, Digital PTZ to choice image area
6. Image Setting Brightness Manual
7. Exposure Auto / Manual
8. Sharpness Manual

9. Contrast Manual
10. White Balance Auto / Manual
11. Digital Zoom 1x ~ 12x
12. Image Rotation Flip, Mirror, and 180 Degree Rotate
13. Motion detection ON/OFF
14. Privacy Mask ON/OFF
15. Privacy Mask Type Mosaic, Transparent, Color
16. ICR ON/OFF
17. Audio Two-way Audio
18. Compression/meu ^-law PCM 5Khz/G.711/ADPCM/GSM-AMR/MPEG-4 AAC
19. Alarm Input 5V 10kQ pull UP
20. Output Photo Relay Output 300VDC/AC
21. Event System / Trigger GPIN, Motion Detection, On Boot, Manual Trigger,
22. Action File upload via FTP, HTTP, Email and save to SD card
23. Notification via email, HTTP and TCP, External output activation
24. Video Buffer Pre and Post Alarm

25. Network Interface : 10/100/1000 Mb Ethernet (RJ-45)
26. Protocol supported : HTTP, HTTPS, TCP/IP, IPv4, SMTP, FTP, PPPoE, DHCP, IGMP, UPnP
DDNS, NTP, DNS, ARP, RTSP, RTP, RTCP, ICMP, Telnet
27. Password Levels : User and Administrator, Https Encryption
28. Internet Browser : Internet Explorer (6.0+) /Mozilla/Chrome
29. Operating Temperature : 0°C ~ 50°C
30. Humidity : 10% to 85%, Non Condensing
31. Power Source : DC12V adaptor should be from original manufacturer or inbuilt 230V AC, 50Hz
32. Housing for Camera (Enclosure) : Aluminum Alloy, Weather Proof, Vandal Proof, IP66 with Inbuilt blower and heater.

3/5 IP base Joystick with Controller

- | | |
|---------------------------------|------------------------------------|
| 1. Joystick Controller | Three axis, two button Hall effect |
| 2. Minimum Programmable Buttons | 8 |
| 3. Interface | RJ45/USB |
| 4. Joystick Travel | 36° (18° from center) |
| 5. Centering | Single spring, Omni-directional |
| 6. Housing | High impact, glass-filled nylon |
| 7. Life cycles | 10,000,000 |
| 8. Operating temperature | -40°C to +85°C |

3/6 Video Monitoring and Control System Software

Compatibility: Monitoring, Controlling and Recording Software along with Network management software shall be compatible with,

1. Supplied Cameras (must be from same supplier/manufacturer. No third party software will be accepted.)
2. Networking Units.
3. Windows and LINUX (any flavour) Operating System supplied with computer. With duw compatibility with the software of surveillance.
4. Overlaid software suite on O/S

3/7 Control Functions: All control functions will be implemented from software like,

1. Camera configuration and basic I/O, validation and control.
2. Network Configuration, control and management.
3. Video display control, mode selection.
4. Video Archive Control and management.
5. Security Control with password and encryption.

3/8 Camera I/O Functions software : All Camera control functions should be implemented in software such as

1. Automatic / manual configuration of IP based camera units and all I/O
2. Software must be capable simultaneously handling up to 120 camera units for CMS using 4 monitors at single work station.
3. MPEG/ JPEG video or photo capture and online display on same screen (up to 16)
 - Software should be from the OEM of cameras only.
 - The software should support third party interfacing/integration of IP cameras.
 - The Video Management System should support seamless integration with access control and intrusion detection system.
 - E-map feature.
 - The Video Management System should be capable of live viewing, recording, playback and archiving of video/data to an external storage device simultaneously.
 - The Software should support integration with Video analytics from same OEM.
 - The Video management software should have auto throttling feature which would reduce the frames of the camera which are not being viewed/highlighted by the operator.
 - Should support pre- and post recording of video images at the time of alarm.
4. Camera status information.
5. Alerts for camera unit's disconnection/ malfunction/low light (Audio visual with reset), Motion detection base archival activation Control of camera (pan/tilt/zoom) from control room.

3/9 Central Monitoring Station, Switches, camera connectivity with fiber ring & location of switches.

1. All Server & Desktop PC should be connected with Suitable switch (10/100/1000T base) at CMS with Single mode fiber in gigabit star topology.
2. Capable of online I/O with 16/64 video channels display (vendor to size as per required bandwidth for video transmission)
3. Each camera should be connected to Individual switch through CAT-5E STP cable. Two- fiber port of the switch will be connected in ring. Industrial grade switch will be mounted on each OFC termination location.

3/10 Network Control and management : All network management functions to be through a Web Browser and software also like

1. Configuration of all switches for camera connectivity
2. Automatic network management during normal operations
3. Facility for network switching-over in-case of network element failure
4. Network control from password protected account only.

3/11 Recording and Archival of Video:

1. Capable for automatic and manual configuration settings.
2. Automatic recording disk area management with System area/Video area partition on disk /Camera Wise Recording on NAS.
3. Sub Frame rate (Settable) video recording
4. All camera/Selected camera recording capability
5. Disk full alarms/alerts
6. Playback (menu based and smart Search integrated utility for retrieval of particular events etc.)
7. Date/Time stamped recording Windows compatible and Linux media file format of MPEG/JPEG standard (or) any other format, which consumes less memory.

3/12 Workstations and accessories for Central Monitoring Station

Make : DELL / IBM / HP / SUN or any reputed firm

1. Processor: INTEL 5600 Xeon 3.0 GHZ (or latest/higher), 12 MB min. Cache, Quad core
2. Motherboard: INTEL/HP/DELL/IBM/FUJITSU branded mother board based on Intel
3. chipset with following requirements:
 - 100/1000 TX LAN - Double
 - 1333 MHz system bus
 - ECC DDR 3, 1333 MHz RAM
 - Hot-plug Storage

- I/O: PCI - 33 MHZ (3 MIN), PCI-ExpX16 SLOT for graphics
 - SATA 4 ports controller
4. Ports: 1 x serial, 4 x USB, 2 x ps/2 (all on motherboard)
 5. Memory RAM: 12 GB DDR 667 ecc - expandable to 24 GB (min)
 6. HDD: 2x500 GB for OS & 2 x 1000 GB for video applications
 7. Monitor: 21" LCD colour, aperture grill, anti-reflective, resolution: 1600 x1200 @70Hz or better, 24 bits color,0.26 mm dot pitch, energy star compliant
 8. Cache 12 MB L3
 9. Internal DVD writer : 8x DVD (w), 32x DVD (r) capability for DD DVD media x 2
 10. Blue Ray writer : Blue Ray x 2
 11. Keyboard : PS2 104 keys windows compatible
 12. Mouse : Optical scroll with pad
 13. Power supply : Hot pluggable Redundant Power Supply, 750 watts
 14. Cabinet : ATX form factor with total 7 device bays minimum
 15. OS : Windows – Server 2005/XP prof. With sp3 or latest license (OEM/full) + original media with key
 16. Graphics: PCI-exp x-16, 3D graphics card, 1GB Min. VRAM 1600 x 1200 resolution, 24 bit color (NVIDIA 560 or better) Compatible with 21"monitor.
 17. Printer : Color Laser Printer A4 size, 600 Dpi, 8 PPM, 10/100/1000 Tx network
 18. Interface, Dual print mode, USB & Parallel port, Linux certified.
 19. Media for Backup: DVD media - 8.4 GB & Blue ray media -25GB, - 200 nos each, Sony/HP or Equivalent.

3/13 LCD colour TV FULL HD 32"/42" - Make : LG / Samsung / Sony or any reputed firm

1. LCD Screen Size : 32"/40"/ 42"
2. Display Resolution : Full HD 1920 x 1080
3. Aspect Ratio : 16:9
4. Viewing Angle : 178o
5. Picture Frame Rate : 24 per second
6. Motion Picture Updating Rate : Minimum 100 Hz
7. Audio Output Power : Minimum 20W(10Wx2)
8. Picture in Picture : Yes
9. USB 2.0 : Movie & JPEG

3/14 Camera Pole :- Pole should be fabricated from MS, weatherproof & powder coated painted, up to 6-meter high from ground level with RCC foundation, box mounted up to 1.25 meter from ground level for switch with lock & various cable arrangements for camera & network equipment. Vendor should supply all the mounting accessories.

3/15 An Uninterrupted Power Supply (UPS) System for CMS

1. Output Power Capacity 2 KVA/5KVA/10 KVA with minimum 2-4 Hrs Backup (Online UPS)
2. Efficiency at Full Load > 94%
3. Bypass Mechanism Inbuilt Static, Maintenance
4. Waveform Type Sine Wave
5. Nominal Output Voltage 230V
6. Output Voltage Tolerance +/-1% static and +/- 5% at 100% load step
7. Output Voltage THD < 2% for 0 to 100% linear load and < 5% for full load
8. Efficiency at Half Load > 94%
9. Neutral Output Current 50A
10. Input Frequency Auto Sensing (47 ~ 70 Hz)
11. Maximum Input Current 27A
12. Input Breaker Capacity 50A
13. Battery Type and Backup Sealed Maintenance Free (SMF) 4 Hours Backup on Full Load
14. Battery Housing Included
15. Audible Alarm Audible and visible alarms prioritized by severity
16. Operating Environment 0 ~ 40 °C

3/16 LAN switch at CMS (PoE Support)

1. 10/100/1000 MBPS
2. It should support minimum 24 LAN port
3. Minimum 4 port single mode fiber 9/125 micron loaded with SFP compatible

4. Switch should support 1000 base LX & TX/RX Single Mode fiber & maximum distance of 20
5. Kilometer support
6. Should be fully SNMP managed with VLAN support
7. Operating conditions: -5e C to 50s C, 85% RH (non-condensing)
8. Power supply of switch should be industrial grade with operating temperature of 50s C

3/17 LAN switch at rack locations (PoE Support)- based on topology used for fiber connectivity

1. 10/100/1000 MBPS
2. It should support minimum 8 LAN port
3. Minimum 2 Shared SFP Port single mode fiber 9/125 Micron compatible loaded with SFP
4. expandable upto 12 port Fiber
5. Switch should support 1000 base LX & TX/RX Single Mode fiber & maximum distance of 20
6. Km support.
7. Should be fully SNMP managed with VLAN support
8. Operating conditions: -5e C to 50s C, 85% RH (non-condensing)
9. Power supply of switch should be industrial grade with operating temperature of 50° C.

3/18 Network Attached Storage (NAS):

(with provision for virtualization in case of emergency to be possible) (F,SUN, IBM,HP, DELL)

1. NAS with 12 TB Raw Unformatted Capacity and expandable up to 24 TB.
2. Vendor to Populate 12 nos. of 1TB Hdd's to achive 12TB Raw capacity + 1 Hot Spare drive support
3. CPU should be Multicore processor
4. Should have Dual Redundant Power Supplies preloaded in the offered device.
5. Memory - 4GB ECC RAM minimum
6. Embedded flash memory for firmware - 128MB
7. Support for SATA-I and SATA-II Drives - Minimum 12 Drives
8. Hot-swappable and lockable trays for HDD's
9. Minimum 2 nos. of Gigabit Copper Ethernet ports and ports should have network support for Auto Failover, Round robin, 802.3AD link Aggregation
10. USB - 2.0 Ports - minimum 2 nos. for Connecting Backup Devices such as USB HDD's
11. It should support DHCP Server to support DHCP clients and inbuilt routing capability.
12. RAID levels 0/1/5/6
13. Hot-swap and Hot Spare Drive support
14. Disk scrubbing
15. Background volume check
16. Online File System Consistency Check
17. iSCSI target supported over Ethernet Port to Achive SAN Functionality
18. Supports Windows, Mac, Linux/UNIX clients, CIFS/SMB for Windows and Mac OS X
19. NFS v3 for Linux/UNIX
20. HTTP and HTTPS for web browsers, FTP and FTPS support
21. Print sharing

3/19 Desktop PC

Make: HP/Dell/LENOVO/IBM or any reputed firm.

1. INTEL Core-i7 CPU, min 3.2 GHz, 6MBCache or higher,FSB 1333MHz
2. Motherboard : HP/DELL/LENOVO branded on Intel chipset, 4 GB RAM
3. LCD Monitor : TFT Colour display 21" Monitor
4. HDD : 500GB SATA 7200 RPM
5. Internal DVD writer : 8x DVD (W) writer, 32x DVD (R) capability for DD DVD media
6. Graphic card : 1600 x 1200 pixel resolution 256 MB VRAM, 3D graphics
7. OS: windows - XP prof. With sp3 or Linux flavour latest license(OEM/full) + Original media with key no.
8. Optical scroll mouse and Key board
9. Cabinet with Power supply
10. Gigabit Ethernet

3/20 Optical Fiber Cable (OFC) & Local Area Network (LAN) cabling

1. OFC should be TEC approved and reputed make. The Vendor has to submit the Manufacturer test reports along with OFC.

2. Cable Type: Minimum Single Mode 6 (six) core Optical Fiber, 9/125 μ m, armored outdoor type application.
3. Armoring: Two layers, each of 0.125 mm thick galvanized steel tape applied helically to provide extra crush resistance. The second layer covering the gap of the first layer with an overlap.
4. Outer sheath: Polythene with minimum thickness of 1.8 mm. any colour with U.V. Resistant pigment suitable for direct exposure to sunlight.
5. Route indicators (Metallic) for O22FC cable are to be placed for every 100 mtrs.
6. Joint indicators for OFC cable are to be placed for every OFC joint.
7. Length of OFC cable to be laid 4.00 Kms. approximately.
8. Digging and burying of OFC cable 2.5 Kms. Length and the OFC cables are to be laid in buried HDPE pipes. Diameter of the HDPE pipe should be 25mm of Std. Make with ISI mark.
9. Depth of Soft and Hard Soil trench : - 3 Feet x 1 Feet . The Vendor shall have to resurface the same properly with concrete material before handover.
10. The Boring for Cement roads is 6mtrs. across the road. The Pits are to be covered back on both sides after work completion.
11. OFC cable has to be spliced and jointed wherever required and tested by the vendor.
12. Fiber Distribution Infrastructure:- Racks to be placed in all the location in the building where the Network switches are terminated. OFC cables to be terminated fully for all cores in proper LIU's using SC Adapter plates / couplers and pigtails. Please include the Sub Components and Unit Prices in offer.
13. OFC will be routed in ring mode across campus & all cameras will be connected though OFC gigabits ring. In event of an OFC break, the cameras on the network will maintain communication with workstation on an alternate route.
14. OFC will form a ring topology (Figure - 1). Entire ring will work on 100/1000MBPS on TCP/IP LAN. The entire camera will be on same TCP/IP domain having IP address RR.YY.KK.XX domain where only XX will be variable.

3/21 UTP & Power cable

1. All the cables should be weatherproof, outdoor grade & as per BIS standard.
2. CAT-5E cable should user for camera termination. Both ends should have UTP I/O's and the Patch Cords should be pre-moulded, connectorized & reputed make.

4. SYSTEM COFIGURATION DETAILED DESIGN:

Vendor should give full system configuration giving diagram and detailed placement of each Components/ sub systems along with technical bid.

5. ON-SITE RESIDENT ENGINEER for SUPPORT:

-
Minimum One Site Engineer (technically qualified having all essential qualification) should be available in the each Campus. Additional manpower should be added as and when required to keep the system in working condition. All manpower deployed should be on payroll of the company.
Man power deployed will carry out:

- 1) Preventive and routine maintenance of the system.
- 2) Maintenance and bug management of the system
- 3) Operation of system
- 4) Data base management
- 5) Assist High Court and subordinate Courts in regular operation of the system
- 6) Any other work to keep system always available in working condition

6. DOCUMENT:

Operation and service manuals for each items supplied to be provided - 3 sets. Service manuals will provide complete system details like operation, & maintenance of system with details configuration, relevant lay out, diagram and drawings.

7. INSPECTION & ACCEPTANCE:

Acceptance Test will be conducted as follows:

1. High Court of Uttarakhand or any Team constituted by Court reserves the right to inspect all active/Passive equipments/material procured/provided under this project. The cost of all such tests

shall be borne by the Vendor. Any inspected goods fail in to confirm the specification after installation, the UTTARALHAND High Court may reject them and the Vendor shall have to replace the rejected goods. In case of inspection waiver the same shall be obtained before the dispatch of goods. Inspection of rest of material shall be done at site by the Engineer-In-Charge. Sample approval should be obtained before installation of such material.

2. The first step will involve successful installation of all sites. The provisional acceptance of these sites will be defined as Partial Acceptance.
3. Final Acceptance Test (FAT): After successful installation of the equipment/Material in accordance with the requirements as mentioned in Contract, Final Acceptance Test will be conducted. After successful testing, Acceptance Test Certificate will be issued by High Court or any Team constituted by High Court.
4. The date on which Acceptance certificate is issued shall be deemed to be the date of successful commissioning of the Equipments/Material.
5. Any delay by the Vendor in the Acceptance Testing shall render the Vendor liable to the imposition of appropriate Penalties.
6. All goods and services should have approval of TEC with ISI or other certification, as applicable, to prove the quality standards applicable in India.

7/1 IP BASED SURVEILLANCE CCTV system with all the equipments, cable and other materials are to be inspected at on site by the Team constituted by High Court of Uttarakhand before installation. The readiness is to be informed for this inspection.

7/2 Vendor shall provide details of Acceptance Test Procedure (ATP) to High Court of Uttarakhand as per tender specifications & will demonstrate system specifications as per ATP to UTTARALHAND High Court. During ATP vendor will use their own tools, equipments. High Court will not provide any test instrument/tools.

7/3 Final payment will be made after satisfactory testing, commissioning and acceptance of the complete system.

7/4 the system will be considered as installed and accepted only after successful uninterrupted operation of the entire system at site for period of minimum 30 days.

7/5. After work order, installation & commissioning to be done at all sites simultaneously & complete work at all sites to be completed within a period of 30 days.

8. TECHNICAL TERMS AND CONDITIONS:

1. Technically complied vendor will be called for technical presentation/discussion.
2. The bidder should be a company registered and operating under the Indian Companies Act, 1956 since April 1, 2005 or earlier.
3. The bidder should be an established System Integrator being in this business for a period exceeding five years as on 31.03.2010.
4. The bidder must have on its roll at least 25 technically qualified professionals in the area of Project Management / Electronics Security Systems / System Integration / Networking /Wireless in providing the services as on 31.03.2012.
5. The bidder shall furnish last month EPF paid details along with name and no. of employee's details etc.
6. The bidder should submit valid letter from the OEMs confirming following:
 - Authorization letter from OEM / Technology partner
 - Technology partner letter confirming 'Products quoted are not end of-life for the further period of 6 years'.
 - Support including spares, Software upgrades shall be made available for next 7 years
7. The bidder must provide a list of places where such systems have been installed and/or are being maintained by him with their configuration and with the references, Work order or purchase order copies etc. The bidder is required to provide assurance to arrange for a visit at such place in case the committee needs to evaluate the performance of the installation.
8. Only those vendors will be considered who have installed or are in the process of implementation for at least one similar solution of the order value of more than 2 Crores within last 3 years. Vendor should provide details of the customer with purchase order copy, contact person's name and telephone number.
9. The bidder must have overall turnover of ₹ 10 Crores for each of the last three preceding years (2009-2010, 2010-2011, 2011-2012,). The bidder must attach audited accounts as supporting documents. Un-audited accounts will not be considered.
10. The bidder should have completed the total similar project of more than 5 Crores out of which any single order value must be more than 50 Lac value during the last three years as on 31.03.2012.

11. The bidder should be financially sound. The bidder shall submit net worth of the company as per Audited Annual report for the last three financial years preceding the last date of submission of the proposals.
 12. The bidder should furnish valid commercial tax registration certificate, valid service tax registration certificate and Permanent Account Number (PAN) issued by income Tax department.
 13. Both the Camera Types and the Monitoring and Control Software has to be from a single vendor only to ensure proper integration. All Switches have to be from a single vendor for ease of maintenance. Workstations can be from OEM of Camera brand or has to be from DELL/IBM/HP or SUN or any reputed brand.
- 13.1 17 -
14. Terms & conditions compliance statement must be attached with technical bid. Vendor must quote for all items as listed in the specifications. The specifications of the total system shall be as per specifications or better.
 15. Vendor has to comply with each and every line item of this RFP.
 16. Vendor must quote for standard 'make' items and Specify 'name of the manufacturer', make' & 'model' of the items along with product catalogue. Detail bill of material must be provided by the vendor in the technical Section along with all Makes, Model nos.
 17. Any additional details about compliance, non-compliance(Deviation) or additional feature about quoted items must be described separately in the annexure.
 18. Vendor has to take up the contract on turnkey basis job, i.e. procurement, installation, commissioning and operation of the entire system (all elements included) to the entire satisfaction of High Court of Uttarakhand.
 19. In case any vendor not meeting technical specifications for any system/sub-system as per tender, it should be clearly mentioned separately in technical offer specifying details of deviation.
 20. Vendors will quote all the items as per specification in price bids. Part offer will be rejected.
 21. After laying of the various types of the cables and mounting the poles and cameras, Vendor will carry out related finishing and civil work as it was.
 22. If any item is not quoted in price bid by the vendor and it is required to implementing this project, vendor will supply all the required items without paying any extra cost as this is a turnkey job.
 23. Vendor will lay and supply all types of cable like OFC, UTP, Power Cable, etc. Cable length shown in bill of material is approximate and payment of the cable laying and supplying will be on actual basis. (per meter)

8/2. Warranty support :

Warranty Terms

All goods/materials (including Cabling)/Labour work shall be supplied/carried out strictly in accordance with the specifications, drawings, datasheets, other attachments and conditions stated in the Bid/Order/LOL. All materials supplied by the Vendor shall be guaranteed to be of the best quality of their respective kinds and shall be free from faulty design, workmanship and materials.

The Vendor shall be responsible for the warranty support and also for the post warranty support and as required by the High Court of Uttarakhand.

1. In case of failure, the Vendor needs to replace or repair the faulty part/component/device to restore the services at the earliest during the warranty period of 3 years from the date of acceptance of entire system will all subcomponents used in the project.
2. It is vendor's responsibility to keep the system in good working condition with minimum down time. Down Time should not be more than 30 minute per camera per day at an average throughout the warranty period. The system should be up for more than 98% in a Quarter.
3. The vendor is responsible for maintaining uptime as under:
 - Computers: At least one Monitoring work station always up (100%)
 - Network/Fiber: Central Switches 99% uptime per Quarter
 - Camera units:98% uptime per Quarter
4. Local office: Vendor/Contractor shall have Nainital /Haldwani/U.S. Nagar/Haridwar/Dehradun/Delhi based local office with a full fledged support facility. Vendor to give the list of the support staff and their capabilities along with technical bid.
5. The cost of the repairing or replacement of faulty part/component/device has to be entirely born by the Vendor.
6. In event of default originating with the design, material arising at any time during the warranty period, the Vendor shall replace as may be necessary to ensure the material should function in accordance with the specification and to fulfill the foregoing Warranty without any delay.
7. The Vendor shall warrant that every work executed under the contract shall be free from all defects and faults in material, workmanship etc during warranty period.
8. In the event that the materials supplied do not meet the specification and/or are not in accordance with the drawings data in terms of this order, and rectification is required at site, High Court of

Uttarakhand shall notify the Vendor giving full details of difference. The Vendor shall attend the site within seven (7) days of receipt of such notice to meet and agree with representatives of UTTARALHAND High Court, the action required to correct the deficiency. Should the Vendor fail to attend meeting at site within the time specified above, High Court shall be at liberty to rectify the work/materials and Vendor shall reimburse High Court all costs and expenses incurred in connection with such trouble or defect.

9. All expenses related to part/component/device, including hiring of specialized technical expertise, in case required, has to be borne by the Vendor during warranty period.
10. The Vendor also has to make alternate arrangement in case of major failure happening in the network, due to which services may be affected for longer period.
11. After repairing or replacement of the part/component/device, the Vendor needs to put the same into operation.
12. Vendor has to assure back to back warranty from respective OEM are produced and assure High Court's requirements are met. Vendor is also required to provide the certificate or proof for the same as and when requested.

8/3 COMPLAINT REGISTRATION:

Compliant shall be sent by Email, telephone or by any other means. The vendor should provide name, address and telephone number of the contact person in Nainital /Haldwani/U.S. Nagar/Haridwar/Dehradun/Delhi who shall be available 24 hours 7 days (other than site engineer/s) to whom contacted. It is desirable to provide Office & mobile telephone numbers of site engineer.

8/4. RESPONSE TIME:

The vendor should attend the call immediately on receipt of the compliant and repair the system within 2 Hours of the receipt of the complaint. If it is not possible to repair the system within stipulated time frame, the vendor should replace within 12 Hrs the defective part. The original defective part may be repaired and replaced later on at the earliest.

8/5. THE DOWN TIME:

If any, will be accounted only if the fault/defect is not rectified (except for spare replacement) Within 4 Hrs and will be calculated (on quarterly basis) from time at which the complaint is lodged. If spare replacement is required, it shall be done within 24 Hours of the Call log time. Up time shall be as follows:

- (a) Computers: At least one Monitoring work station always up (100 %) overall 95 %
- (b) Network/Fiber: Central Switches 99% uptime
- (c) Camera units: 98% at each point.

8/6. COMMERCIAL TERMS:

1. The prices quoted by vendor should be for delivery at our premises including transportation etc.
2. Quantity of equipments may increase or decrease.
3. VAT/GST extra as applicable (Please indicate the percentage). Also indicate on which item the taxes are applicable (as per the price bid format).
4. Percentage of Service Tax extra as applicable. Also indicate on which item the Service Tax is applicable (as per the price bid format)
5. Warranty:- Vendor must give three years on site warranty from the date of acceptance for entire system with all the sub components used in the project.
6. The warranty is comprehensive with spares. It does not include consumable like printer cartridges, papers etc.
7. Additional AMC charges, year wise from fourth year onwards. Price of this charges is not be considered for qualifying as a lowest bidder. However, lowest bidder will match fourth year onwards AMC charges amongst the lowest bidder.
8. All the vendor should quote as per "BILL OF MATERIAL CUM PRICE STATEMENT" The vendor should provide the list of consumable item alongwith Technical bid.
9. All the vendor should quoted the price in "BILL OF MATERIAL CUM PRICE STATEMENT" for each site separately.

9.0 PAYMENT TERMS:-

<u>1</u>	No advance payment will be made.	
<u>2</u>	After submission of PBC as mentioned in respective clause and after receipt of deliveries of Material at destinations within 30 days from LOI/Work Order.	60%
<u>3</u>	After successful installation and commissioning of System as per Contract Agreement and successful Final Acceptance Test (FAT) by Third Party agency.	25%
<u>4</u>	After successful completion of Warranty period as specified in clause Warranty Terms.	15%

10. SERVICE SUPPORT & ANNUAL MAINTENANCE CONTRACT CHARGES (AMC):

1. Vendor will provide spares & service support for 10 years. Service support commitment in writing should be given for all the supplied items from OEM on his letterhead duly signed by a competent authority.
2. After completion of three-year warranty, vendor will offer year wise comprehensive AMC charges for next seven years. Please mention the charges separately in the Price Bid for Year wise comprehensive AMC. The work of appointed agency shall be reviewed on yearly basis & then based on the performance the AMC shall be renewed on yearly basis.
3. OFC laying charges per meter will be On actual basis (Per Meter).
4. Installation and commissioning is in the scope of contract.
5. Vendor will provide Delivery, installation, commissioning and acceptance schedule along with technical bid.
 - Time required for delivery after placement of order
 - Time required for installation & commissioning after supply.
 - Time required for getting our acceptance after commissioning.

11/1. Vendor has to provide a copy of the price bid/Commercial bid format without indicating prices to this part. This is to ensure that you are quoting all the items as per our format, since Price Bid will not be opened initially.

12. PENALTY CLAUSE:

Penalties for delay in implementation:

1. Failure to complete the Installation/Commissioning/ Acceptance If the Vendor fails to completed the Installation/Commissioning/ Acceptance within the time period(S)specified in the LOI/Order/Instruction, High Court of Uttarakhand may, without prejudice to its other remedies under the Agreement, levy as Penalties a sum equivalent to 10%of the algebraic sum of the cost for the equipments installed at that particular site/sites, for each week or part thereof of delay, until actual delivery of performance. If the delay continues beyond 2 month, UTTARALHAND High Court may terminate the Agreement. However High Court may consider extension of time for completion of the assigned job with justification thereof.
2. If High Court of Uttarakhand fails to provide space and related clearances for installation of the equipments at designated site/sites, within 30 days from written instruction given to Vendor to carry out the job as per the agreement terms, as a result of which the installation of the equipment is delayed and the Vendor is not able to adhere to the schedule for completing the Acceptance Tests. In such an event the Vendor will prove the Acceptance Test with the completed sites and if the tests are accomplished within the scheduled time according to the Third Party Agency then the Operator will be deemed to have completed the Acceptance according to the schedule and High Court will be required to pay the Operator as per agreement terms.

12/1. OPERATIONAL PENALTIES:

- The Vendor shall repair/ replace all faulty material covered under the warranty within the shortest possible time thus ensuring minimum downtime as mentioned at Clause “Warranty Terms”, failing which applicable penalty will be imposed. The following penalties for Operational Deficiencies shall apply:
 1. The Vendor shall be responsible for maintaining the desired performance and availability of the system/services. Vendor should ensure the prompt service support during warranty period as under:
 2. If the Vendor fails to attend the call as specified above, the following penalty will be imposed on each delayed day, which will be recovered against due payment of Vendor/PBG:

Penalty/Day. for each day, if Problem is not resolved within 4 hour from complaint lodged.	Penalty/Day. For each day, if problem is not resolved after 3 days from complaint lodged.
₹10,000/- per day.	₹20,000/- per day.

13. PERFORMANCE GUARANTEE

1. The Vendor shall furnish Performance Guarantee as provided in the bid document to GOG/user department for an amount equal to 10% of the value of Order/LOI. Since it is a Rate Contract Tender, Vendor will have to submit PBG as decided by GOG initially, and subsequent PBG at the time of submission of the bills, for the work carried out to the user department.
2. The performance guarantee will be in the form of bank guarantee for the amount equal to 10% of the value of the Order/LOI towards faithful performance of the contract obligation, and performance of the equipments during Warrantee period of 3 years. In case of poor and unsatisfactory field services, High Court of Uttarakhand shall invoke the PBG.
3. The Performance Guarantee shall be valid for a period of 180 days beyond Warrantee period and shall be denominated in Indian Rupees and shall be in the form of an unconditional Bank Guarantee issued by any nationalize Banks or private banks namely State Bank of India, IDBI Bank, AXIS Bank, HDFC Bank, ICICI Bank, having branch in Delhi/Haldwani in the format provided by GOG to be submitted within 7 working days of receipt of award. The Performance Guarantee shall be discharged by High Court of Uttarakhand and returned to the Vendor within 30 days from the date of expiry of the Performance Bank Guarantee.

Sd/-
Registrar General
High Court of Uttarakhand
At Nainital

TABLE - 1
BILL OF MATERIAL CUM PRICE STATEMENT

S N	DESCRIPTION	Quantity (as per actual)	UNIT	MAKE/ MODEL	UNIT PRICE (RS.)	APPLICABLE TAX	% OF TAX	TOTAL PRICE (RS.)
1.	PTZ Camera		Per unit					
2.	Camera Enclosure for Above Camera		Per unit					
3.	Fixed Camera		Per unit					
4.	Camera Enclosure for Above Camera		Per unit					
5.	Joystick for Monitoring stations		Per unit					
6.	Video Monitoring & control system software with media (32 Channel)		Per unit					
7.	Workstation for Mini Monitoring Station with one 21 Plasma / LCD TV		Per unit					
8.	Laser Printer		Per unit					
9.	Media for Backup		Per unit					
10.	32" Plasma TV / LCD TV Screen		Per unit					
11.	42" Plasma TV / LCD TV Screen		Per unit					
12.	UPS - 2 KVA		Per unit					
13.	UPS - 5 KVA		Per unit					
14.	UPS - 10 KVA		Per unit					
15.	Network Switches at CMS (Industrial grade) for CMS PoE support		Per unit					
16.	Network switches (Industrial grade) providing single mode fiber & LAN connectivity at rack locations PoE Support		Per unit					
17.	Network Attached Storage - 12TB		Per unit					
18.	Desk top PC with 21" LCD monitor		Per unit					
19.	Six core Single Mode Optical fiber Cable (payment on actual basis)		Per unit					
20.	12 Port LIU with Adapter Plates and couplers SC type(Fully Loaded - Rack Mount)		Per unit					
21.	SC Pigtaills		Per unit					
22.	SC - LC Patch Cords		Per unit					
23.	CAT-5E UTP Cable Boxes		Per unit					
24.	CAT-5E - 3 Feet Patch cords		Per unit					
25.	Modular Jack Panels		Per unit					
26.	CAT-5E UTP I/O's for rack Panels		Per unit					
27.	Dual Port Face Plates with Dual CAT-5E UTP I/O's and Back box		Per unit					
28.	1000 Base - LX GBIC Modules of same OEM as switches		Per unit					
29.	Network Rack - 30U - (600W x 800D) for Server Room(2 Nos. Vertical PDU - 10 Socket, 1 Heavy duty tray, four fans with fan tray, Mounting hardware, Front Glass door and rear steel door)Quantity is based on assumption; actual may vary 1KVA UPS for switches (off line) with 30 minutes battery back up. L1 evaluation shall be done on the Total price quoted (including 7 years AMC charges).		Per unit					
30.	Network Racks - 9U - for Termination locations		Per unit					
31.	Power line, surge & Lightning protection unit for each Camera (with AC/DC converter for camera and enclosure power)		Per unit					
32.	25 mm HDPE Conduit for entire OFC cable laying and also for Power cabling from Nearest Power Point up to Camera enclosure in separate conduits -Dual run (Reputed make - ISI Mark)		Per unit					
33.	Cable Route Markers		Per unit					
34.	Poles for all Cameras		Per unit					
35.	Outdoor weatherproof painted metal/High grade plastic box for mounting LAN switch & termination of Fiber/power cable at Camera Poles.		Per unit					
36.	4 Soft Soil Digging with resurfacing (payment at actual)		Per unit					
37.	Hard Soil Digging with resurfacing (payment at actual)		Per unit					
38.	Underground Boring across 6 mtr. Concrete Roads(Payment at Actual)		Per unit					
39.	HDPE and Power Cable laying in trenches (payment at actual)		Per unit					
40.	HDPE and OFC laying in trenches (payment actual)		Per unit					
41.	HDPE and OFC laying on wall with clamping (payment at actual)		Per unit					
42.	Pigtails splicing for OFC		Per unit					
43.	Labour charges for installations & commissioning (Vendor to give breakup of Labour Items considered in Technical Bid)		Lump sum					
44.	Annual Warranty charges for the surveillance solution with Resident Engineer Onsite Facility		Per year					
45.	Any item if required for realization of IP BASED SURVEILLANCE CCTV system		Per unit					
46.	Manpower Cost		Per month					
47.	Additional AMC charges, year wise from fourth		Per year					

year onwards. Price of this charges is not be considered or qualifying as a lowest bidder. However, lowest bidder will match fourth year onwards AMC charges amongst the lowest bidder.							
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- Quantity is based as per actual, vender has to survey the site thoroughly before submitting the proposal.
- Rates will be treated to be valid for a period of six months from the date of approval of bid.

TABLE-2
REQUIREMENT OF ITEMS

SN	PLACE	Outlying Courts	CCTV Cameras (fix Camera)	CCTV Cameras (P/T/Z Camera)	Alarm System	High resolution 21" LCD Display	High resolution 32" LCD Display	42" LCD/ Plasma Display	Work Station (Server)	Desktop (PC)	Laser Printer	UPS (On Line)	Other Accessories
1.	HIGH COURT OF UTTARAKHAND AT NAINITAL	High Court	26	11	1	2	-	4	2	1	1	10 KVA	
2.	ALMORA	Almora	14	01	01		01		01	01	01	5 KVA	As per requirement
3.		Ranikhet	01		01	01			01	01	01	2 KVA	As per requirement
4.		Dwarahat	01		01	01			01	01	01	2 KVA	As per requirement
5.		Bhikiyasen	01		01	01			01	01	01	2 KVA	As per requirement
6.	BAGESHWAR	Bageshwar	08	---	01		01		01	01	01	5 KVA	As per requirement
7.		Garur	02	---	01	01			01	01	01	2 KVA	As per requirement
8.	CHAMOLI	Gopeshwar	06	02	01		01		01	01	01	5 KVA	As per requirement
9.		Karnprayag	03	--	01	01			01	01	01	2 KVA	As per requirement
10.		Tharali	03	--	01	01			01	01	01	2 KVA	As per requirement
11.	CHAMPAWAT	Champawat	17	01	01			01	01	01	01	5 KVA	As per requirement
12.		Tanakpur	06	01	01		01		01	01	01	2 KVA	As per requirement
13.	DEHRADUN	Dehradun	20	06	02			01	01	01	01	10 KVA	As per requirement
14.		Rishikesh	14	04	02		01		01	01	01	5 KVA	As per requirement
15.		Vikas Nagar	04	02	01	01			01	01	01	2 KVA	As per requirement
16.		Chakrata	02	---	01	01			01	01	01	2 KVA	As per requirement
17.	HARIDWAR	Roshnabad	29	03	01			01	01	01	01	10 KVA	As per requirement
18.		Roorkee	15	02	01		01		01	01	01	5 KVA	As per requirement
19.		Laksar	10	02	01		01		01	01	01	5 KVA	As per requirement
20.	NAINITAL	Nainital	13 + 02 (reserve)= 15	---	01		01		01	01	01	5 KVA	As per requirement
21.		Haldwani	25 + 03 (reserve) = 28	02	01			01	01	01	01	10 KVA	As per requirement

22.		Ramnagar	08	02	01		01		01	01	01	5 KVA	As per requirement
23.	PAURI GARHWAL	Pauri	02	03	01	01			01	01	01	2 KVA	As per requirement
24.		Family Court, Pauri	01	--	01	01			01	01	01	2 KVA	As per requirement
25.		Lansdown	01	01	01	01			01	01	01	2 KVA	As per requirement
26.		Shrinagar	02	01	01	01			01	01	01	2 KVA	As per requirement
27.		Kotdwar	03	02	01	01			01	01	01	2 KVA	As per requirement
28.		PITHORAGARH	Pithoragarh	15	01	01		01		01	01	01	5 KVA
29.	Didihat		07	01	01		01		01	01	01	5 KVA	As per requirement
30.	Gangalihat		01	01	01	01			01	01	01	2 KVA	As per requirement
31.	RUDRAPRAYAG	Rudraprayag	05	02	01	01			01	01	01	2 KVA	As per requirement
32.		Ukhimath	04		01	01			01	01	01	2 KVA	As per requirement
33.	TEHRI GARHWAL	New Tehri	18	06	01		01		01	01	01	5 KVA	As per requirement
34.		Narendra Nagar	09	02	01		01		01	01	01	5 KVA	As per requirement
35.		Kirtinagar	---	04	01	01			01	01	01		As per requirement
36.	UDHAM SINGH NAGAR	Rudrapur	33 + 03 (reserve) = 36	01	01		01		01	01	01	10 KVA	As per requirement
37.		Kashipur	12 + 02 (reserve) = 14	01	01		01		01	01	01	5 KVA	As per requirement
38.		Khatima	10+ 02 (reserve) = 12	01	01		01		01	01	01	5 KVA	As per requirement
39.	UTTARKASHI	Uttarkashi	11	01	01		01		01	01	01	5 KVA	As per requirement
40.		Purola	03	---	01	01			01	01	01	2 KVA	As per requirement
TOTAL			377	67	42	20	16	09	41	40	40	2KVA=18 5KVA=16 10KVA=05	As per requirement