

**SPECIFICATION
FOR
CCTV SYSTEM**

**SPECIFICATION NO.
ACEM ELEC-DOC-01-01 REV 0.0**

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FOR TENDERING PURPOSE ONLY

*10/11/11
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GENERAL POINTS

1.0 GENERAL

- 1.1 General Description: The CCTV system shall be used to monitor and record the hazardous operations such as grinding, mixing, casting, trimming and NDT.
- 1.2 The specification covers the supply, installation and commissioning of CCTV system.
- 1.3 The vendor shall study the specification and satisfy himself thoroughly and shall take full responsibility of the smooth, reliable and safe working.
- 1.4 All items of instrument shall be completed in all respects and any instrument not covered in the specification but essential for proper installation, operation and maintenance of the instrument shall be included by the vendor in his offer and the reasons for such inclusion shall be clearly stated.

2.0 DETAILED SPECIFICATION

- 2.1 Detail technical specification and other particulars are furnished in Annexure - 1

3.0 SCOPE OF WORK

- 3.1 The scope of work includes supply, installation and commissioning of CCTV System as specified in this specification.
- 3.2 Supply of necessary spares.
- 3.3 Packaging, forwarding, transport, insurance, loading, unloading, precaution against damage during transit etc.
- 3.4 Performance Guarantee.
- 3.5 Two sets of operation and maintenance manuals.
- 3.6 Test Certificate: Vendor shall provide all necessary test certificates.

4.0 ELECTRICS

- 4.1 Electric power will be available in the installation site at 230V AC, 1 phase, 50Hz.
- 4.2 If the vendor requires any other voltage, then he shall provide the necessary conversion equipment.


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5.0 SAFETY

- 5.1 All equipment items shall be complete with approved safety devices, wherever a potential hazard to personnel exists, and with provision for safe access to personnel to and around the instrument for operational and maintenance functions.

6.0 TIME FOR COMPLETION

- 6.1 The vendor shall complete supply, and commissioning of the instrument within 5 months from the placement of order.

7.0 TEST AND INSPECTION

- 7.1 Inspection of the equipment will be done at ACEM, Nasik.
- 7.2 The vendor shall demonstrate all the features of the equipment mentioned in the technical specification.
- 7.3 The vendor is solely responsible for installation, commissioning and making the complete system operational at user's site.

8.0 OPERATION CONDITIONS

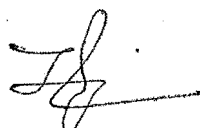
- 8.1 All equipment shall be designed for smooth, efficient and trouble free operation in tropical humid climate of 45°C ambient and a humidity of 90%.
- 8.2 In cases where the offer deviates from the specification, the vendor shall indicate clearly in his offer the specification proposed by him along with details thereof and the reasons for the deviation. Each exception to the specification or other parts of the tender document shall be listed separately by the vendor. If exceptions are not clearly listed they will not be considered by the Purchaser later.

9.0 DOCUMENTS

- 9.1 The vendor shall supply the hard and soft copy of Operation and Maintenance manual in duplicate. All necessary literature giving complete technical details shall be provided. He should also provide the test certificates given by manufacturer.
- 9.2 The vendor shall provide the original DVD/CD of the softwares.
- 9.3 The vendor shall furnish a list of users in India to whom the similar equipment was supplied.

10.0 DISPATCH CLEARANCE

- 10.1 The vendor shall deliver the instrument to ACEM only after obtaining clearance for dispatch by ACEM, Nasik.



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11.0 INSTALLATION & COMMISSIONING

- 11.1 It is to be noted again that supply, installation and commissioning of the system with all accessories, auxiliaries, and any item not covered in the specification but essential for proper installation, operation and maintenance of the CCTV System shall be included and executed by the vendor.
- 11.2 The supply will not be deemed complete until the commissioning trial of the whole system is carried out by the vendor at ACEM, Nasik site successfully.

12.0 PERFORMANCE AND GUARANTEE (P. G.)

- 12.1 All necessary tests shall be carried out at ACEM, Nasik site by the vendor to demonstrate whether performance of the instrument conforms to the relevant standards and specifications and meets the functional requirement indicated in the specification.

13.0 WARRANTY:

- 13.1 The vendor shall provide warranty/guarantee for the entire system for a period of 12 months from the date of commissioning.
- 13.2 The vendor shall be responsible for routine and breakdown maintenance of the equipment during warranty period.

14.0 PAYMENT TERMS

- 14.1 90 % payment against inspection acceptance delivery and completion of installation / commissioning and balance 10% against PBG valid for the period of Warranty.

15.0 CAPABILITY AND EXPERIENCE

- 15.1 The vendor shall have executed at least two (2) similar kind of work within last 3 years. The vendor shall submit along the offer the reference list of the similar work. Offers received without the reference list may be rejected.

16.0 PRE-BID DISCUSSIONS

- 16.1 Before quoting, the vendor shall visit ACEM, Nasik with prior appointment for understanding the exact requirement. Tenders quoted without understanding the requirement may be rejected.

17.0 TRAINING

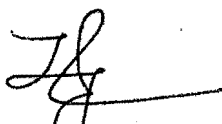
- 17.1 Vendor shall provide 1 week training about the working of CCTV System and the relevant software.

18.0 QUOTATION

- 18.1 Vendor should submit quotation in Indian currency-only.

19.0 CLARIFICATIONS

- 19.1 For any technical clarification, the vendor may contact Shri T V J Rao, Sc'F', ACEM, Nasik (Ph. No. : 02550 - 282502; Fax : 02550 - 282504).


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ANNEXURE - I

TECHNICAL SPECIFICATION FOR CCTV SYSTEM

Nomenclature : CCTV system

Quantity : 01 Package

I. CCTV Camera

Qty: 24Nos.

Make: Panasonic/Pelco/Sony/Honeywell

1. Ambient Operating Temperature- 4°C - 50°C
2. Horizontal Resolution- 570 line at B/W or 480 line at colour imaging
3. S/N Ratio- 50dB (AGC off, weight on)
4. Minimum illumination- 0.6lux at B/W or 1 lux at colour imaging
5. Panning Range -360°C endless
6. Zoom Ratio > 22x optical zoom
7. Scanning Area- ¼ " CCD
8. Back Light Compensation- Digital
9. Camera ID- Upto 16 characters
10. On screen set up menu- Alphanumeric character display
11. Mounting of Camera- on camera mounting angle
12. Camera Enclosure- **Flame proof/ Dust proof type dome certified by CMRI, Dhanbad shall be provided.**

II. System Controller

Qty: 24 Nos.

Make: Panasonic/Pelco/Sony/Honeywell

1. Power source- AC 220-240V, 50Hz
2. Lens Control- Zoom: Tele/ wide, Focus: Near/Far/Auto focus, Iris: Open/Close /Pre set.
3. Pan/ Tilt Control- Manual Pan: Manual, selectable at variable speed control, Auto Pan: On/Off, Random Pan: Selectable at variable speed control.
4. Alarm- Alarm input max. of 4 input, Alarm buzzer : On/Off, Alarm Display : On/Off, Auto reset/Manual reset: Possible.
5. Ambient Operating Temperature: -10°C to +50°C

III. 21" LCD TV Monitor with trolley

Qty: 24 Nos.

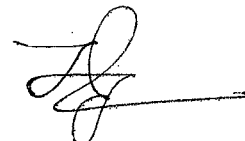
TV Make: Sony/Panasonic/LG/Samsung

Trolley make : Rittal/Equivalent

IV. Video Distributor

Qty: 24 Nos.

1. Power source- AC 220-240V, 50Hz
2. One BNC/RC Input and minimum two BNC/RC outputs.
3. 1 Vp-p in/op signal.



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Video Encoder

Qty: 24 Nos.

1. Video in – 1 ch BNC type (CBVS camera input)
2. Compression format : MPEG 4/M-JPEG
3. RS 485 terminal for PTZ controls.
4. Ethernet 10/100 base-T
5. Video resolution: PAL 720 x 576
6. Network Protocol : HTTP, TCP/IP, SMTP, WEP-64/128 bit
7. Video bit rate adjust : CBR, VBR
8. Video output resolution : D1/VGA/CIF/QCIF
9. Image snapshot and full screen monitoring
10. OS : Windows XP/Windows Vista/ Windows 7
11. Software for viewing in PC through Ethernet shall be provided.

VI. 4 Channel Digital Video Recorder (DVR)

Qty : 24 Nos.

1. Video input – 4 channel BNC type
2. Video compression – H.264
3. Audio input – 4 Channel
4. Recording resolution - 4CIF (PAL: 704x576, NTSC: 704x480)/DCIF/2CIF/CIF/QCIF
5. Output – 1 VGA, 1 Main Video BNC, 1 Auxilary Video BNC, Audio out
6. Hard Disk – 500 GB storage SATA
7. 1 SATA DVD R/W
8. External USB support

VII. 32 Channel Network Video Recorder

Qty : 01 No.

1. Capable of recording 32 channels simultaneously from LAN
2. Software for recording and playback with Professional License
3. Video format : MPEG-4/H.264/MJPEG
4. Online UPS with 3 hours backup
5. Workstation with following minimum specification
 - i. Intel Core 2 Quad 2.67GHz, 4 GB Memory
 - ii. 2 TB Hard disk
 - iii. Graphics card- NVidia GeForce 9800GT
 - iv. DVD R/W

VIII. 32" LCD TV Monitor

Qty : 02 Nos.

Wall mounted

TV Make: Sony/Panasonic/LG/Samsung

IX. Professional Video Camera

Qty. : 01 No.

Make: Sony/ Canon/ Nikon/Olympus

1. Recording format : HDV1080/50i/25p, DVCAM, DV SP 576/50i (PAL)
2. Play out/Down conversion format: HDV1080/50i/25p, DVCAM, DV SP 576/50i (PAL)
3. Audio/Video output: 10-pin connector A/V OUT jack
(component, composite and unbalanced audio x2ch with the supplied cables)
4. HDV/DV input/output: i.LINK interface (IEEE 1394, 4-pin)
5. Digital video output: HDMI connector
6. LCD view finder: 0.45 inch (Viewable area measured diagonally), 16:9 aspect ratio
7. LCD monitor: 3.2 inch (Viewable area measured diagonally), 16:9 aspect ratio
8. Lens: 20x (optical), f = 4.1 to 82mm, f = 29.5 to 590 mm at 16:9 mode
filter diameter: 72mm
9. Built-in filter: Clear, 1/4, 1/16, 1/64
10. Imaging system: 1/3 inch-type, progressive 3 ClearVid CMOS Sensor system with technology of Exmor
11. Picture elements: Approx. 1,037,000 pixels (effective)
12. Focus: Auto, manual (focus ring/one push auto/infinity/AF assist/focus macro)

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TV 5300
J. S. Chaudhary
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13. White balance: Auto, one-push auto (A/B positions), indoor (3200 K), outdoor (selectable level -7 to +7, approx. 500K/step), manual WB Temp (selectable 2300K to 15000K, 100K/step)
14. 16GB compact Flash Card – 1 No.
15. DV Cassettes – 20 Nos.
16. DV Grabber Card – 1 No.

X. Tripod Stand for Video Camera

Qty. : 02 Nos.

1. Adjustable Height : Maximum 1500mm (approx.) to Minimum 700mm (approx.)
2. Panning Angle: 360 degrees
3. Tilting Angle: 70 degrees (up), 90 degrees (down)
4. Material : Aluminium.

XI. Cables for Camera installation

1. Armoured Video cable – 150 metres per camera
2. Armoured Power cable – 150 metres per camera
3. CAT-6 LAN Cable - 15 metres per camera

Scope of work : Supply, installation and commissioning of the system at the site. The CCTV system is to be installed at 24 different facilities. The Cameras will be installed in an explosive area. The Monitor and control system will be installed in the control room (i.e. non explosive area). The distance between the camera and control room is approximately 150 m. Armoured video cable shall be used to carry the video signal from the camera to the control room. In the control room the video signal will be simultaneously fed to the monitor (through system controller) and Video encoder by the Video Distributor. The output of the video encoder shall be connected to the Ethernet switch which will be provided by ACEM. There shall be a central control room where the 32 channel NVR will be placed with 32" LCD TV monitor. In the control room the video of all the 24 cameras shall be recorded and displayed simultaneously through LAN. The LAN connectivity at the central control room will be provided by ACEM. Supply and laying of cables in trays/MS conduits is in the scope of the vendor. Integration of the complete system is in the scope of the vendor.