

# **PART E**

# **SPECIFICATIONS**

## **PART E - SPECIFICATIONS**

### **GENERAL**

#### **E1. GENERAL**

E1.1 These Specifications shall apply to the Work.

#### **E2. GOODS**

E2.1 The Contractor shall supply electronic equipment for the monitoring and recording of Winnipeg Police Service interview room operations in accordance with the requirements hereinafter specified.

#### **E3. GENERAL**

E3.1 The following are specifications for the Winnipeg Police Service (WPS) proposed interview room recording system. The service is looking at standardizing on a system that will be used in all of their interview rooms in all of the WPS facilities around Winnipeg. This RFP is for the design and supply of 5 video recording systems for 5 individual interview rooms. There is to be a control room with equipment and monitors for accessing and controlling 4 of the interview rooms. There is also a separate recording room called a "soft" room. A "soft" room is a comforting room used to interview victims. The soft room is a separate facility and will have its own control room.

E3.2 The system for each room shall consist of two cameras, one fixed viewing a wide angle of the room (ideally the entire room), while the other shall be doing close-ups of the person being interviewed. Each room shall be equipped with an omni directional microphone with automatic gain control (AGC) circuitry. The AGC circuit will be designed to provide a near uniform output to the recorder, irregardless of the interview subjects whispering or shouting. A wireless microphone supplied by the WPS may be used in any room and it's audio must also be recorded in addition to the room mic. Facilities to allow switching the wireless microphone receiver to any of the rooms recorders will also be required.

E3.3 Each room shall remotely have the two sources of audio and video recorded in a digital format. The video shall be time and date stamped and recorded at a nominal 30 frames per second (standard NTSC-M). The audio/video shall be simultaneously recorded on a DVD writer and on a hard drive system.

E3.4 The Winnipeg Police Service desires to archive these interview room recordings in a centralized location. For this phase of the project the equipment used to record the interview rooms must be capable of integrating at a future date into a network with mass storage capabilities.

#### **E4. AUDIO**

E4.1 The standard interview room shall be designed to record audio from at least one source of audio. The standard source will be from an omni directional microphone, suspended overhead. While covert or disguise styles are not essential, these microphones shall be inconspicuous during normal use.

E4.2 The "soft" interview room shall be designed to record from two sources of audio. One source will be from an omni directional overhead microphone. The second source is from a lavalier type wireless microphone supplied by the WPS. The wireless microphone shall be worn by the interviewer and may be used in any of the interview rooms. Provisions must be made to switch

the audio from this microphone's receiver to any of the room's recorders. The microphone must be sensitive enough to pick up quiet speech.

- E4.3 The microphone for the "soft" interview room shall be a disguised or covert type of microphone. It shall be mounted in a central location and designed to pick up a soft speech from all directions.
- E4.4 Bidder shall describe the model and style of microphone proposed for each of the two room styles. Pricing shall be included.
- E4.5 To adjust for varying audio levels, an Automatic Gain Control (AGC) circuit shall be used by the room omni-directional microphones. AGC shall be able to adjust to the rapid change in voice from a whisper to a shout to ensure that the recorded interview is intelligible when played back for court purposes. Bidders are to explain how their proposals will comply, describing the minimum and maximum signal levels. Pricing shall be included.
- E4.6 Bidder shall describe how they propose to switch audio from the wireless microphone receiver to the recorder for each room. Pricing shall be included.
- E4.7 Power supplies for microphones and AGC to be supplied in Bid

## **E5. VIDEO**

- E5.1 In phase 1 of the project there is a minimum of four interview rooms and one "Soft" room that will require equipment. The dimensions of the standard interview rooms are approximately 3 metres by 3 metres. Each interview room is to be equipped with two cameras: one taking a close-up of the person being interviewed, and one taking a view of the entire interview room. The cameras installed in the standard interview room shall be fixed mounted while the close-up camera in the soft room shall be equipped with a pan, tilt, and zoom mount.
- E5.2 A method for creating a picture-in-picture (PiP) is required for each interview room. The video from the close-up camera shall be inserted into the wide-angle view video. The size of the PiP and the location on the screen should be adjustable. The nominal size of the PiP should be approximately 25% of the entire image.
- E5.3 All Cameras shall be colour type with greater than 400 lines of resolution.
- E5.4 All Cameras shall be capable of providing a high quality picture using standard fluorescent or incandescent light.
- E5.5 Close up Camera in the "soft room" shall have remote pan, tilt, and zoom mount.
- E5.6 One camera in each room shall have wide angle view capable of capturing nearly the entire room.
- E5.7 All cameras shall be mounted in an inconspicuous manner as possible. The use of disguised cameras, pinhole or transparent wainscoting is allowed. Bidders are to explain how their proposals will comply.
- E5.8 Power supplies for Cameras shall be supplied in Bid
- E5.9 Bidders shall describe the camera models and provide specification sheets of proposed equipment. Suggestions for camera mounting locations should also be provided. Preference shall be given to greater sensitivity and higher resolution. Prices shall be included.
  - (a) Bidders shall describe the method of performing the picture-in-picture function including the capabilities to re-size and move the inserted image. Prices shall be included.

## **E6. RECORDING SYSTEM**

- E6.1 The WPS is flexible in the configurations of the recorder system to be used. The Bidders may supply a separate recorder system for each interview room, or may offer a recording system capable of recording several rooms at the same time.
- E6.2 The recording system shall consist of a device that will convert video signals from the two cameras and associated audio into digital signals and then store them on a digital medium such as a hard disk drive (HDD). The recording system will also store the audio and video signals directly onto a standard DVD.
- E6.3 It is desirable that all three video signals, close-up, wide-angle, and Picture-in-picture (PiP) be recorded, but only the (PiP) video must be recorded. The PiP video shall also be recorded on DVD. In any configuration the following minimum specifications shall apply for the recording system:
- (a) Each camera shall be recorded at a nominal 30 frames per second (fps)
  - (b) Time and Date shall be stamped on every frame on playback. The location of the stamp should be moveable across the screen. Bidders are to explain how they will comply.
  - (c) Recorder system shall be able to record at least 1000 hours of 30 fps video per camera input. This does not apply to the DVD recorder. Recorder system shall be capable of archiving video interviews to DVD disc. Redundancy of the interview recordings is highly desirable, bidders are to indicate what redundancies are provided with their proposed recorder system.
  - (d) The recorder shall be capable of archiving the video to an external storage device, such as a network or RAID storage device.
  - (e) A operator shall be able to retrieve audio and video from the recording system from their position in the monitoring room. Bidder shall detail how this will be performed.
  - (f) As per (c), the system should be expandable to hold up to 10,000 hours of video and audio. Bidders should propose a staged approach on how a network could be used to provide a centralized mass storage facility. Initially all the interview rooms would be contained within one building however, interview rooms are to be developed in 5 different building locations within the city. Connection to a centralized facility would be desirable.. There is projected to be 34 interview rooms upon the completion of this project. Bidders are to explain how their proposals will comply with this requirement
  - (g) In addition to the main recording system, each room shall also have the PiP audio and video signal recorded on a DVD recorder. The recorded signal will be identical to the signal recorded on the main system. The signal shall also include the time and date stamp. The DVD recorder shall utilize standard consumer grade DVD media that can be played in the typical consumer grade DVD player.
  - (h) The digital recorder shall have a built in LAN terminal (100Base-TX/ 10Base-T) for remote viewing and control from a PC running the viewing software on a specified network. Bidders are to explain how their proposals will comply
  - (i) The digital recorder shall offer Time / Date search on recorded material
  - (j) The digital recorder shall operate using the NTSC video system
  - (k) The recording system shall have a lock or password to prevent unauthorized use. It would be preferable to have individual files password protected. Bidders are to explain how their proposals will comply
  - (l) Software shall be provided to allow networked computers to view recordings
  - (m) While the recording system must record the PiP video and audio signals, it is also desirable to record the close-up video and wide angle video signals. Bidders are to explain how their proposals would accomplish this and if there are any restrictions or limitations.

- (n) There shall be an obvious indicator outside each interview room that will automatically illuminate whenever the recording system is activated in that room. Bidders shall describe how this will be accomplished. Pricing shall be provided .
- (o) There should be some type of authentication algorithm encoded into the recordings to prevent or detect tampering. Bidders are to explain how their proposals will comply

E6.4 Bidders shall provide a block diagram of the recording system being proposed. This diagram shall clearly indicate all major recording blocks and indicate the interconnections between components.

## **E7. MONITORING**

- E7.1 Monitoring of the interview rooms is typically done in a room removed from the actual interview rooms. The WPS sees the typical installation involving one control/monitoring room for every 1-6 interview rooms. Within the monitoring room, separate workstations would be established to allow live monitoring and review of the recorded material.
- E7.2 The WPS require one workstation per interview room. This workstation would allow the operator to start and stop the recordings, live monitor the interview room, playback selected audio and video, search the archive, and replicate desired audio and video segments. Each workstation must have the ability to access any and all of the interviews located in that facility. Multiple workstations must have the ability to live monitor the same room simultaneously.
- E7.3 The monitoring workstation associated with the "soft" room must have the ability to control the pan, tilt and zoom features of the close up camera in that room.
- E7.4 An additional workstation to be used by a supervisor must be supplied. The supervisor workstation would normally be separated from the other workstations and would oversee the operations of 1-6 interview rooms located in the same facility. The supervisor workstation would have all the features of the standard interview room and in addition, must have the ability to simultaneously monitor all the interview rooms within the work group. This would typically involve monitoring 2-6 rooms. The supervisor should have the ability to view all room simultaneously or to select an individual room.
- E7.5 The WPS has access to new and used personal computers (PCs). If PCs are required for any part of this system, the bidder may elect to have the WPS supply their own computers provided a detailed specification of the required PC is provided with their bid response.
- E7.6 The number of interview rooms may increase in the future and the need to add additional workstations will be necessary.
- E7.7 Four identical workstations shall be supplied allowing monitoring and control of the standard interview rooms.
- E7.8 One workstation shall be supplied to monitor/control the "soft" room. This includes the necessary software/hardware required to control the pan, tilt, and zoom camera.
- E7.9 One supervisor workstation shall be supplied. The supervisor workstation would have all the features of the standard interview room and in addition, must have the ability to simultaneously monitor all the interview rooms within the work group. This would typically involve monitoring 2-6 rooms. The supervisor should have the ability to view all room simultaneously or to select an individual room. Bidder shall describe how these functions will be performed and any limitations on the number of rooms to be monitored.
- E7.10 The operators at each workstation shall be able to live monitor the audio and video from any room within their workgroup.

- E7.11 The operators at each workstation shall be able to search, play and replicate archived video. To replicate audio and video, the operator must be able to write the material directly to a DVD writer. The DVDs produced by this device must be standard DVDs playable in the typical consumer DVD player.
- E7.12 Each workstation shall be provided with a video monitor. The monitors supplied shall be at minimum of 19" and use flat thin screen technology
- E7.13 The recorder system shall be simple to operate. Bidders are to briefly describe how to start and stop a recording session and how to view and access recordings.
- E7.14 An operator should be able to record video and view previously recorded video simultaneously. Bidders are to explain how their proposals will comply.
- E7.15 The operator should be able to move and resize the picture-in-picture. Bidders are to explain how their proposals will comply
- E7.16 If PC's are required, bidder shall provide a detailed specification of the minimum technical requirements for these computers. Bidders shall include the price of these PC's. The WPS may elect to provide their own computers in which case, the cost of the PC's will be deducted to arrive at the total evaluated Bid price.
- E7.17 Bidders shall provide a simple block diagram of the monitoring workstations. This should include 4 standard workstations, one "soft" room workstation and one supervisor workstation. The diagram should include the basic components and interconnections between components. Bidder shall provide an itemized price list for this configuration.

## **E8. ANCILLARY**

- E8.1 Most digital recording systems require various software licences to control the equipment, view the videos or even manage the files.
- E8.2 All software required to operate the system shall be supplied with the system
- E8.3 Maintenance or diagnostic software showing parameters such as how much was recorded, hours left, size of files, etc should be supplied with the system. Bidders are to explain how their proposals will comply
- E8.4 An administrator should be able to set up the system so that people in certain workgroups can only view files that they have permission to view. Bidders are to explain how their proposals will comply
- E8.5 All software/firmware upgrades shall be provide without charge for a minimum of one year.
- E8.6 Bidders shall list all software licences required for the equipment package being presented. Bidders shall also list any software or maintenance costs required for the first 5 years of operation. Bidders to include the price of these.

## **E9. INSTALLATION ( OPTIONAL)**

- E9.1 The City is technically capable of installing the Interview Room Recording System. However the bidder is invited to submit an optional proposal to provide the installation services. If the bidder provided installation option is selected, the bidder will be required to obtain a WPS security clearance on all personnel working on the installation before they can proceed with the installation work.
- E9.2 Installation is optional and will not be evaluated in this proposal.

- E9.3 Bidders shall list the price of installing system.
- E9.4 Bidders shall provide all cables, connectors, and interconnections irregardless of who performs the system installation.
- E9.5 Bidders shall identify all necessary power requirements including the number of 120 VAC outlets and their current rating.
- E9.6 If bidder elects to offer installation services, they are to describe their installation plans, including time tables, and whether they would want City personnel to assist with the installation.

#### **E10. DOCUMENTATION**

- E10.1 The City supports, maintains and services most of the electronic systems throughout the City. To aid in this endeavour, documentation is essential and will be required for this project.
- E10.2 At least three system user manuals shall be provided to allow someone unfamiliar with the recording system to be able to use all features of the system.
- E10.3 Service Manuals for all equipment priced over \$100.00 should be available to City of Winnipeg service personnel. Price of manuals to be included.
- E10.4 If providing installation services, the bidder shall be required to provide at least 3 copies of a system manual documenting cable runs and inter-connections between equipment and equipment configuration parameters.

#### **E11. TRAINING AND TECHNICAL SUPPORT**

- E11.1 The City desires to have all staff using or servicing systems to be properly trained. This can be in class room training, direct one-on-one training, or a "Train the Trainer" system.
- E11.2 Bidder shall supply training for the users. Bidders shall describe their training plans for the end user. Pricing for the training shall be included.
- E11.3 Bidders should provide technical training for the technologists who may be servicing the system and individual components.
- E11.4 Technical training should include troubleshooting, configuration and maintenance procedures. Bidders shall describe their training plans for the technical staff. Pricing shall be included.

#### **E12. DELIVERY**

- E12.1 Equipment is to be delivered on or before December 31 2004.
- E12.2 Goods shall be delivered FOB The City of Winnipeg, 421 Osborne Street, Communication Systems Branch, Winnipeg Manitoba R3L 2A2, freight prepaid.