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To: 'patrick.gillingham@dcs.gov.za'
Subject: *********URGENT**********

Equipment Specifications & Guidelines

The succesfull Bidder must provide a proposed architecture with complete quantities, and proposed rollout schedules, the proposal must make provision for integration into already established Security / Building management systems.

It must be noted that the Department will make no provision for communication methods for purposes of this Bid.

1. System Solution

The system proposed must be independently switchable, allowing Video & Audio Distribution on a Cell by Cell Basis, as well as allowing for the broadcasting of messages, pre – recorded or live, from a national / regional control centre on a global or individual basis.

In addition to the distribution of video and audio signals the bidder must make provision for the control of power to the individual viewing screens, affording the ability to switch screens on and off from a central control point.

There must be no settings or controls accessible at the viewing screen with all video and audio settings being set and controlled centrally.

The proposals need to be prepared in a manner so as to declare equipment quantities and rates, thus making it a simple matter for the Department of Correctional Services to adjust prices as required.

Additionally, it is a requirement that the bidder must include details of a full technical support base, covering all aspects of maintenance and repair throughout the life of the maintenance contract agreement.

1.1 System Approach

To be noted are the basic infrastructure elements which need to be proposed in the overall system. The operation of any system is dependent upon some basic elements, viz:

- Reliable Cabling and Containment System
- Stable Power Supply
- Proven System Infrastructure

1.2 Containment System

The cabling containment system proposed by the bidder is assumed to be comprehensive, with the result that no open or exposed cabling will be permitted. It is the bidders responsibility to acquaint themselves with the existing infrastucture on site and specify the quantities of the various materials required. The guidelines below are meant to assist in the preparation of the bidders' bid.

Location	Containment Type
External to the building	Galvanised Steel Conduit or Galvanised Steel 'O-Line' Trunking
Internal to the building	Galvanised Steel Conduit
Buried – Under Roadway	PVC Conduit
Buried – Not Under Roadway	PVC Conduit

1. In all cases the containment must be suitably sized to allow for the necessary cables for this project and 50% spare capacity for future expansion of the system.

2. All steel containment must be earth bonded with a maximum resistance between the building earth and the containment system of 0,7Ω.

3. All connections from the containment system to an external system component must be made using suitable glands or flexible conduit, as appropriate, typically Adaptaflex or similar.

4. Cable Entry into the individual cells must be effected through the cell wall directly to the Viewing Screen and/or its enclosure.

1.3 Power Supply & Reticulation

The buildings mains power reticulation cannot be considered reliable and therefore the bidder must make provision for suitably sized Uninterruptible Power Supply Units to provide continuous operation of the Distributed Audio & Video System as a whole in the event of power failure. The required run time for the systems is a minimum of 1 hour with any individual UPS not operating at more than 70% of it's maximum load.

All power cabling must be installed in accordance with SABS:0142.

All signal cabling must be suitable for the frequency range required with a high degree of immunity to external interference, especially EMI & RFI.

All high voltage cable must be installed at least 500mm away from any data and video signal cables and must not be run in the data risers.

All high voltage cable must be installed in suitably sized containment.

All cabling shall be numbered in a logical sequence, to be agreed with the Department of Correctional Services, to enable the Department of Correctional

Services' technical staff, or a third party agency suitably qualified to do so, to successfully fault find and carry out maintenance on the system and its' cabling.

Section 2 gives specifications for Distributed Video & Audio Equipment which should be followed as part of the solution proposed by the bidder.

2.1 Signal Reception

The System must be capable of receiving terrestrial television signals for SABC 1, SABC 2, SABC 3 & eTV.

As this tender refers to a National Requirement, no specific frequencies and bandwidths for the reception of these Television Channels form part of this specification.

It is assumed that the bidder has the necessary skills and competency to ascertain the most appropriate frequencies and bandwidths in each geographical location to achieve the best possible signal strength.

In any case the signal strength received at the antennae must be ≥ 70dB and it is the bidders responsibility to ensure this is achieved.

2.2 Distribution

The system architecture should be structured in such a way as to allow for expansion in the future, whilst arranging a flexible platform that will allow central distribution of the Audio & Video Signals.

Each cell must be catered for on an individual basis with the Distribution of the Television, Video & Audio Signals being switched wholly independently of each other.

Should the bidders' proposed solution require the use of a Video & Audio Signal Distribution Matrix then the Matrix must operate to the following minimum specifications:

- Bandwidth ≥ 18 MHz
- SNR ≥ 85dB
- Audio Response 300Hz – 18 KHz
- PAL/NTSC

It is an additional requirement that the system must operate a Video Tape Transmission System with the same degree of functionality and flexibility described for the terrestrial television channels.

It is the bidders responsibility to determine the necessary design and architecture for the signal distribution to individual cells and this document does not dictate the Launch Levels for Signals from the Head End Distribution System.

It is however a requirement that the Video Signal Level achieved in the individual cells should be ≥ 70dB with an audio level of 3W.

The signal distribution method proposed by the bidder must consider the need to furnish the overall system with a high degree of immunity from the effects of Electro Magnetic and Radio Frequency Interference whilst at the same time catering for the future expansion of the system to include other areas within the various facilities.

2.3 Display Systems

The viewing screens in the individual cells must be capable of receiving PAL/NTSC Signals and displaying the same, without the need for any conversion or adjustment either locally or centrally.

The viewed size must be ≥ 43cm, with a 4:3 aspect ratio.

The choice of viewing screen should take into account the need for a high level of reliability and also the need to consider the difficulties of conducting maintenance on these systems in a correctional environment.

2.4. Enclosures

The monitor screens must be enclosed in a suitable tamper proof housing, to eliminate the possibility of wilful damage, the Department will not be held liable for damage incurred during the contract period. Where IP 65 type enclosures are proposed, the bidder must make suitable provision for the cleaning and maintenance thereof.

2.5. Integration

The Department has embarked on various security installations, it is imperative that the proposed system can integrate with exisiting systems, the succesfull bidder will have to make provision for that integration to the extent of enabling the monitoring, control and interrogation of the Distributed Video & Audio System via the existing systems.

2.6. Annunciation / Broadcast ability

The Department requires that the system allows for the broadcasting of messages, both script and Audio Visual, recording facilities must be provided for, and transmittable via composite video, possibly done in Wavelet format transmitted as a file on the network to the various operational centres.

2.7. Voting / Interactive abilities

It would be advantageous but not a prerequisite if the system proposed could include an interactive voting type logging system whereby questions screened on the monitor could be answered by means of selections which could be done by the occupants of the cell.

3. Bills of Quantity

It is the bidders responsibility to ensure that their submission is complete and accurate and that it contains everything required to deliver a fully working and operational system as per the declared specification.

A fully detailed Bill of materials must accompany the submission showing all equipment, assemblies, sub-assemblies, components and sundry installation materials.

No allowance will be given for omissions or errors on the part of the bidder and the Department of Correctional Services reserve the right to amend and/or question obvious arithmetical errors and adjust the price accordingly.

4. Service & Maintenance

The bidder must include a detailed schedule of all the maintenance, service and repairs envisaged for the system for a period of 5 years, including a standard Maintenance Agreement, details of response/call out times, spares stock holdings, support and diagnostics.

It is an additional requirement of this tender that the submission details the national infrastructure that will be utilised to deliver the high level of service to the Department of Correctional Services.

This should include, but not be limited to, Maintenance Staff and Structures on a Local, Regional and National Basis along with Spares Stock Holdings.

The Maintenance Schedule submitted must detail the type and frequency of maintenance proposed and the importance placed on this requirement by the Department of Correctional Services should not be underestimated by the tender.