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DEPARTMENT OF
GENERAL SERVICES

OFFICE OF THE DIRECTOR

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FLEET MANAGEMENT
RISK MANAGEMENT
AND INSURANCE
SUPPORT SERVICES

April 10, 1987

Budget and Finance Committee
Sacramento, California

Honorable Members in Session:

SUBJECT: Council Chambers Multi-Media System

SUMMARY

It is requested that the Budget and Finance Committee recommend City Council approve authorization for engineering, design and installation for a quality multi-media system in the Council Chambers and Media Center.

BACKGROUND

The proposed system will provide the necessary equipment for cable television broadcasting, taping, displaying of presentations, and a new sound system. Exhibit I provides the Committee with an overview of the proposed system.

The Council Chambers and Media Center electronic equipment requirements will be the determining factor when the Council Chambers and Media Center is completed. Work on remodeling and modification plans and specifications cannot begin until such time as the multi-media system has been designed. The system design will provide us with the requirements for television camera equipment, video equipment, sound equipment, cabling, lighting and dimmer system, monitoring system controls, and cable television interface that will give the City a quality system.

Staff research has found that there are only a few contractors in California that have proven experience to handle and provide the turnkey system being recommended. Because of the many technical considerations and complexities of integration required, the responsibility for the installation of a complete media system should be given to a single contractor.

Hiring a consultant to write plans and specifications to go out to bid would cost about $15,000. The time required for the specifications and bid procedure would add six months to the completion of the project.

A Northern California City established specifications for a system similar to the proposed system and went out to bid. A sound contractor was low bidder and was awarded the contract; however, this vendor lacked sufficient expertise and was unable to perform. City staff members there have indicated that it took an additional five months for the sound contractor to properly configure the system.

CONCLUSION

Based on the surveyed City's recent experience, which is still not completed, as well as experiences of others, it is staff's considered opinion that the design, engineering, and installation of a completely integrated multi-media system of this complexity be given to a single contractor. In the long run, this approach will save time and money, and provide a quality system. Competitive bidding will add approximately six months to the process and the City could end up with an unacceptable system. RFI Electronics, Inc. of San Jose, California, recently completed the Lincoln Plaza PERS Board Room. This company has a long list of successfully completed projects and satisfied clients. They come highly recommended and have the necessary technical skills to do a turnkey integrated project and assume full responsibility for all systems.

FINANCIAL

The City Hall Capital Improvement Program (CIP) for the required equipment provides $190,000 of funding from FY1986-87. With $110,000 requested in the FY1987-88 CIP Budget, sufficient funding will be available for the proposed multi-media system.

RECOMMENDATION

It is requested that the Budget and Finance Committee approve this item and forward it to the City Council, recommending the City Council adopt the attached resolution authorizing and directing the City Manager to expedite the engineering, design, and installation of the proposed multi-media system in the City Council Chambers and Media Center by entering into an agreement with RFI Electronics, Inc., in an amount not to exceed $300,000.

Respectfully submitted,

Frank Mugartegui
Director of General Services

RECOMMENDATION APPROVED:

Jack R. Crist
Deputy City Manager

April 21, 1987
All Districts

RESOLUTION NO.

ADOPTED BY THE SACRAMENTO CITY COUNCIL ON DATE OF

RESOLUTION SUSPENDING FORMAL COMPETITIVE BIDDING FOR THE INSTALLATION OF A MULTI-MEDIA SYSTEM IN THE COUNCIL CHAMBERS AND MEDIA CENTER AND AUTHORIZING THE CITY MANAGER TO EXPEDITE THE NECESSARY CONTRACT.

BE IT RESOLVED BY THE COUNCIL OF THE CITY OF SACRAMENTO, TWO-THIRDS (2/3) OF ALL MEMBERS VOTING IN FAVOR THEREOF:

That pursuant to Section 57.401(c) of the Sacramento City Code, it is hereby determined to be in the best interests of the City to suspend formal competitive bidding for engineering, design, and installation of the proposed multi-media system and that the City Manager is hereby authorized to execute the necessary contract with RFI Electronics, Inc., in an amount not to exceed $300,000.

_____

Mayor

ATTEST:

_____

City Clerk

EXHIBIT I

PROPOSAL

MULTI-MEDIA SYSTEM OVERVIEW

OVERVIEW

The media system design is such that maximum multiple use of all control, video and sound equipment is considered and can be used by the City Council chamber and the media center. Activation of the media center will require installation of a small lighting and dimmer system, some additional cabling and a local sound system. All TV controls, VCR's, cable TV interfaces, monitors, etc., will be used for both functions.

SOUND SYSTEM

The proposed City Council media system improvements consist of phasing out the existing sound system and replacing it with a modern more effective sound system. The proposed new sound system would be multi-functional and provide the following:

- media center speakers
- lobby and hall speakers
- conference room speakers
- council chambers speakers
- automatic controlled dais and podium speakers
- media audio feed
- cable TV audio feed
- 4 track cassette recorder (provides official meeting log)
- 2 track cassette recorder (provides low cost easily duplicatable and backup tape)
- audio tape playback (2 track or 4 track)
- VCR audio playback (3/4", VHS or Beta)
- automatic microphone mixing
- automatic limiting to prevent strong voiced people from overdriving the system

TELEVISION SYSTEM

The TV system would consist of 4 cameras equipped with zoom lenses. Two of the cameras would be permanently mounted with pan and tilt units remotely operated from the media center control console. One of the permanent cameras would be used for the podium speaker and the other for a broad overall shot of the dais.

Two operator controlled cameras would be positioned near the walls of the chambers. These cameras would be used for close up shots of people speaking from the dais. The TV system would be equipped with a time base corrector so that all video sync and color reference signals would be corrected prior to entering the cable TV interface. A character generator would be provided to insert printed messages on the video distribution system.

VCR

The system would be equipped with three VCR's - a 3/4", a VHS and a Beta.

The 3/4" recorder would be a media type VCR that could be used for delayed or next day broadcasts (the meeting could be broadcast live and then rebroadcast at a later date for the morning audience).

The VHS and Beta recorders would be used to make edited versions of the 3/4" tape and for presentations to the council over the display system. They can also be used by the media center to record or play back training films. These recorders would be located in the media center but would also have a remote control at the City Clerk's console to play tapes over the display system.

LIGHTING

To provide clear, crisp, high-resolution, full color pictures, it will be necessary to install a grid of theatrical lighting. The curved shape of the dais will necessitate many lighting angles and will require an extensive lighting grid. Back lighting will be required to prevent the silhouette effect and can be installed on the lighting grid. In order to prevent sudden changes in light intensity and to provide for fine picture quality adjustments, a dimmer system will be required and will be dual controlled from the media center control console or from the city clerk's position. When projection displays are taking place, this system can also be used to dim the lights so the projection will appear bright and clear.

DISPLAY

Because of the large number of presentations made to the Council by the public and staff, a display system is included in the media improvements. The system has the capability of video projection onto a motorized drop screen as well as direct electronic input to the cable TV network and TV monitors.

The most desirable method of projection is rear projection. Because of the physical limitations of our Council chamber it will be necessary to use a ceiling drop front projector. The proposed system will have the following features:

- PC generated high resolution color graphics
- color printing of graphics
- make slides from TV graphics
- slide to TV camera
- video projector

HUMAN INTERFACE

Because of the availability of modern equipment and for public convenience in making council presentations, a new podium design is included. The new podium will have a built-in slide and TV projector so that anyone making a presentation can use slides operated from the podium or place hard copies on the podium for TV projection. These projections could be viewed by the audience on the ceiling drop projection screen and by the Council on dais monitors. Additionally, the projector would electronically interface with the cable TV system for broadcast.

Human operated cameras were chosen over automatic cameras because of the unlimited options in shooting and their proven success.

As of today there are no known automatic systems in operation; although, the City of Roseville is currently installing an automatic system that directs the camera to the microphone in use. The automatic system has the advantage of eliminating the expense of camera and control operators but requires three times as many cameras.

The potential problems with the automatic system are that if someone coughs, the camera would switch to them. To eliminate this, a delay is put on the switching system. The delay will also prevent the camera from switching fast when it is desireable to do so. When two people talk at the same time, the camera will stay on the first person that captured it, but if that person stops talking for a few seconds, the camera will switch to the

next speaker who may not be the person who should be on. If everybody is silent the camera remains on the last person who speaks or makes other noises.

Display and VCR presentation priorities also have to be pre-selected and there is not the flexibility for other options. This type of system is not proven and it would be risky selecting it.

Replacement of the dais would be necessary to provide sufficient depth in the structure to contain TV monitors. The monitors would be viewed through a transparent glass top.

The dais and podium design would include a speaker system so that all positions can clearly hear what all other positions are saying. To prevent feedback, speakers in the vicinity of the orator would be automatically muted when that person was speaking. It is strongly recommended that a small flex shaft be used on the dais and podium microphones. These microphones are directional and pick up a voice even if the speaker is leaning back. While it is true that desk top, flush mounted microphones are aesthetically more pleasing, they cut off when the speaker leans back and they are easily covered with papers or reports. A microphone mute switch and a cough switch would be provided for each microphone..

CONTROLS

The City Clerk's position would have control of the following equipment:

- ceiling drop screen (lower screen for displays)
- display system (podium enable/disable)
- lighting dimmers (lower lighting for display presentation)
- podium microphone (enable/disable)
- key-operated system enable/disable (to prevent unauthorized use)
- audio logging tape (status, footage, record, rewind, fast forward, play and stop)
- VCR (status, record, play, rewind, fast forward, stop and footage)

The Council chambers sound system, drop screen, lighting and display projector would serve the Council chambers.

The time base corrector, video switch, monitors, VCRs, character generator, and audio tapes contained in the control area would be dual purpose and serve the City Council systems and the media center systems.

The TV control will be from the media center control console where the video switch and lighting controls will be located. The control console would be placed so that it has a view of the media center studio. The console operator would have the ability to instantly switch any of the cameras or the projection system to the cable TV system. The control console operator would have headset intercom communications with the camera operators at all times and could ask for adjustments or corrections based on his console monitors.

CONSTRUCTION CONSIDERATIONS

The sound, TV and display system must be integrated with the cable TV system; additionally, most components must be multipurpose for use in the Council chambers or media center. High level sound, low level sound, video and control signals must be kept in separate conduits and wire runs to prevent cross-talk interference. Power lines must also be kept separated from all other lines. Grounding and shielding, if not done correctly, can cause an otherwise good system to perform poorly.