

RICHARD D. JACKSON
Chief Information Officer

Mike Reed
Assistant Chief Information Officer

December 8, 2009

Board of Supervisors
County of Ventura
800 South Victoria Avenue
Ventura, California 93009

SUBJECT: Approval and Authorization of Two Cost Adjustments for the Existing Public Safety Microwave/Radio Network Upgrade Project

RECOMMENDED ACTIONS:

Approve and authorize two cost adjustments for the existing public safety communications projects in order to: (a) add \$557,000 in capital spending so that the total cost of the Public Safety Microwave Network Upgrade increases from \$8,738,749 to \$9,295,749; and (b) increase the total leasing costs by \$160,800 to \$314,400 annually for additional leased space on mountain tops.

FISCAL/MANDATES IMPACT:

Mandatory:	No
Source of Funding:	Borrowing through Tax Exempt Commercial Paper
Funding Match Required:	N/A
Impact on Other Department(s):	Fire and Sheriff will have ongoing costs of operation.

Summary of Revenue and Total Costs	FY 2009-10	FY 20010-11
Revenue: IT Network Services	\$ 150,000	\$ 407,000
Costs:		
Direct	\$ 150,000	\$ 407,000
Indirect-Dept		
Indirect – County CAP		
Total Cost	\$ 150,000	\$ 407,000
Net County Cost	\$ 0	\$ 0

See Appendix A for a breakdown of one-time versus ongoing costs.

Current FY 2009-10 Budget Projection for ITSD Network Services ISF Org 7230				
	Adopted Budget	Adjusted Budget	Projected Budget	Estimated Savings/ (Deficit)
Expenditures	\$16,033,989	\$16,274,375	\$16,274,375	\$0
Revenue	\$16,106,530	\$16,106,530	\$16,106,530	\$0
Operating Gain/(Loss)	(\$ \$72,541)	(\$167,845)	(\$167,845)	\$0

RELATED BOARD LETTER:

Subject to your approval of the above recommended actions, a separate agenda item for the Board regarding the Simulcast Radio progress report will be submitted by the Fire Protection District.

PROJECT HISTORY/SUMMARY:

Your Board previously approved the Public Safety Microwave/Radio Network Upgrade Project which is a joint venture between the Ventura County Fire Protection District, the Ventura County Sheriff, and IT Services. This project sought to increase the number of existing microwave sites from 6 to 18. The expanded microwave network would provide the necessary infrastructure to transport both the Sheriff's Department and Fire District radio communications between their respective dispatch centers and public safety personnel in the field.

A second Board Letter was presented to your Board in May of 2008 after final engineering was completed by Harris Statex on the Microwave portion of this project. Subsequently, the project costs were adjusted and approved by your Board.

This project remains an intra-County agency and departmental joint venture and has been governed by an oversight committee made up of the respective participating County agencies and departments. The new Public Safety Microwave system became fully operational in October 2009 and the contracted project scope for the Microwave portion of the project is now complete.

DISCUSSION:

The joint venture members are revisiting the Microwave/Radio Upgrade project at this time because the final engineering design phase for the simulcast radio portion of the project was completed by Motorola in October 2009. As a result of the final engineering design, Motorola determined it was necessary for additional equipment and equipment racks to be placed at 13 of the 18 microwave sites in order to mitigate inter-modulation (radio distortion/interference) and transmitter noise receiver desensitization (two other interference mechanisms).

The cost estimates for the Public Safety Microwave/Radio Network Upgrade Project, as defined in Appendix A of the May 13, 2008, Board Letter, were developed and adopted on best estimates at the time of that Board letter and did not include any final costs associated with the final Motorola engineering design work for the Simulcast Radio portion of the Project.

Due to the overall project timing and dependencies, the Microwave portion of the project was required to be implemented prior to final engineering being completed for the Simulcast Radio portion of the Project because it was the most time efficient way to execute against both deliverables (microwave and simulcast radio). However, now that engineering for the Simulcast Radio portion of the Project is complete, IT Services has now determined that previous best estimates for the space required to house both microwave and simulcast equipment at 9 of the 18 microwave sites was not enough for the following reasons:

1. Additional microwave equipment racks were required to meet the County's microwave network requirements at some of the impacted sites.
2. The final engineering for the Simulcast Radio portion of the Project revealed that the space required for the new antenna systems (combiners/multi-couplers), which prevent interference within the simulcast frequencies used by the Sheriff and the Fire District (transmitter noise receiver desensitization) and interference from other radio transmitters broadcasting from each mountain top transmit site, exceeded the original estimates used for Microwave site construction.

Motorola's final engineering design for the Simulcast Radio portion of the Project provided IT Services with equipment space requirements. Figure #1 defines the specific cost estimates necessary to provide sufficient space at 9 mountain top sites to house the equipment required for the Simulcast Radio Project.

Public Safety Microwave Capital Project Budget To Provide Additional Simulcast Space

Sites	Resolution	Estimated Additional Lease Cost Per Year	One Time Capital Costs
Torrey Hill	Lease more land & install new pre-fabricated building	\$18,000	\$160,000
Santa Susana	Lease more land & install new pre-fabricated building	\$12,000	\$160,000
Rasnow Peak	Lease additional space in another building; connect to existing tower	\$18,000	\$10,000
Castro Peak	Lease more land & install new pre-fabricated building	\$24,000	\$160,000
KBEH (South Mtn)	Lease additional space in existing building	\$43,200	\$0
Laguna Peak	Lease more land & install new pre-fabricated building	\$0	\$160,000
Rincon Peak	Lease additional space in existing building	\$42,000	\$0
Hall Mtn	Lease additional space in existing building	\$3,600	\$0
Mt. McCoy	Reinforce antenna tower to support new antennas	\$0	\$35,000
Project Management	n/a	\$0	\$48,550
SUBTOTAL		\$160,800	\$733,550
10% Contingency		\$0	\$73,355
TOTAL		\$160,800	\$806,905
Microwave Project Budget Balance		\$0	(\$249,905)
Total Requested Incremental Amount		\$160,800	\$557,000

Figure #1

Analysis of the Simulcast Radio Project rack space requirements revealed that 4 locations would require additional building space while 4 locations would need to expand within their existing buildings. However, all 8 locations would have to have new leases negotiated for the additional space. Space limitations are further illustrated in Figures #2 and #3.



Figure #2

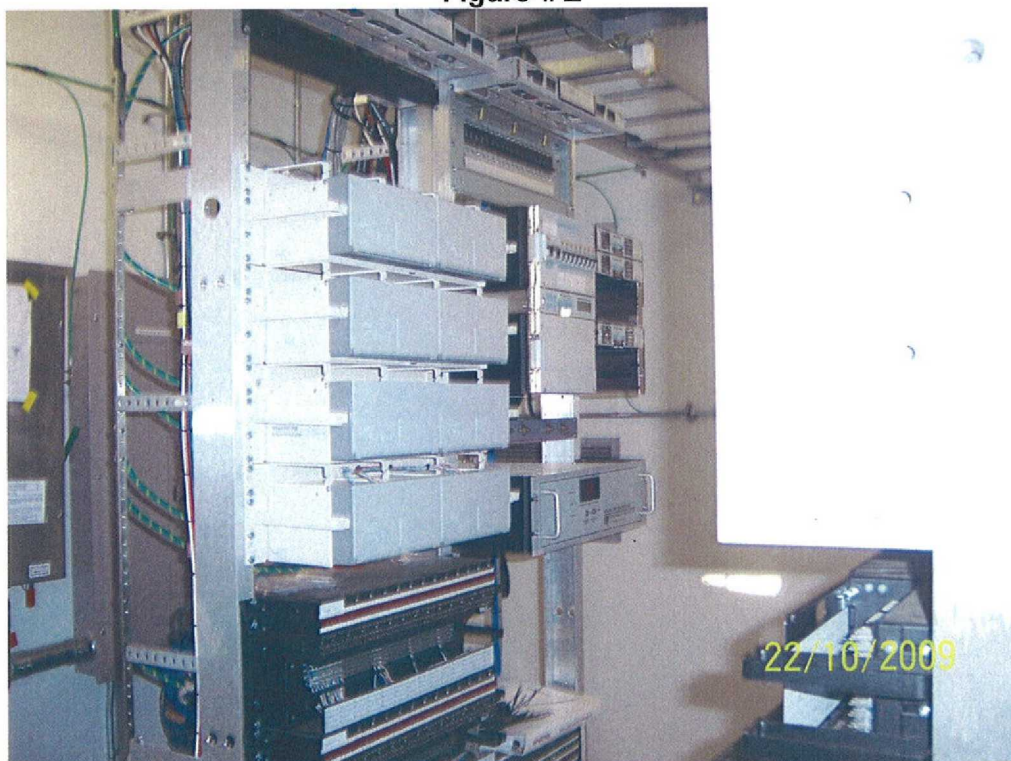


Figure #3

As stated in the March 2007 Board Letter for this Project, the Microwave phase of the overall project would be responsible for the infrastructure supporting the radio phase of the project. This is why we are targeting the cost adjustments to be associated with the Microwave portion of this project rather than the Simulcast portion of this project.

PROJECT FUNDING

The total one-time costs for the recommended adjustments to the Microwave portion of the project is \$557,000 and the total recurring incremental lease costs for the 8 impacted sites are estimated to be \$13,400 per month or \$160,800 per year. New leases will be negotiated with the individual site owners subsequent to approval of this Board Letter and increases associated with each specific site will begin as necessary. These cost adjustments will be funded by the Information Technology Services Department (ITSD) through the use of Tax Exempt Commercial Paper. Repayment will occur through normal ISF billings to both the Sheriff's Department and the Fire Protection District. When completed and operational the ISF billing to the Sheriff will increase from \$148,384 to \$155,084 per month and the Fire District will increase from \$78,423 to \$85,123 per month. This repayment by both the Sheriff Department and the Fire Protection District for the Public Safety Microwave Network Upgrade Project will occur over the next 15 years. Refer to Appendix A for the adjusted capital costs and recurring costs.

This item has been reviewed by the Fire Protection District, Sheriff's Department, County Executive Office, Auditor-Controller's Office, County Counsel, Public Works Agency and the Information Technology Committee.

Please contact me at 654-3818 with any questions or additional information you require relative to this request.



Richard D. Jackson
Chief Information Officer

Attachments:

- Exhibit 1 - Microwave/Radio Upgrade Project Final Costs
- Exhibit 2 - Microwave/Radio Board Letter dated May 13, 2008,
Appendix A, Contract #5657 (5/13/08 Board Letter);
Microwave/Radio Board Letter dated March 13, 2007,
MOA, Appendix A and Appendix B (3/13/07 Board Letter)

cc: Susan Pan – PWA Program Management Services
Sheriff Bob Brooks – Sheriff's Department
Brent Kerr – Sheriff's Department
Chief Bob Roper – Fire Protection District
Jim Norris – Fire Protection District