



**SUBMITTAL TO THE BOARD OF SUPERVISORS  
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA**

**FROM:** Sheriff-Coroner-PA, Fire Department, Riverside County Information Technology

**SUBMITTAL DATE:**  
January 22, 2007

**SUBJECT:** Approve the contract award for the implementation of an enhanced 800 MHz Radio System with Motorola, Inc.

**RECOMMENDED MOTION:** Move that the Board of Supervisors:

1. Approve the agreement with Motorola, Inc. in the amount of \$104,438,000 to implement an enhanced 800MHz radio system to meet public safety and general government radio communication needs; and
2. Authorize the Chairman of the Board to sign the attached agreement; and
3. Direct the Public Safety Enterprise Communication (PSEC) Project Team to present the final design plan for the enhanced 800MHz radio system to the Board with documentation demonstrating compliance with the California Environmental Quality Act (Public Resources Code section 21000, et seq); and
4. Authorize the Department of Facilities Management to initiate in-principle efforts to acquire the PSEC identified communications sites and access easements, with final acquisition to occur only after the PSEC has complied with the directive set forth in paragraph 3 above.

*(Continued on Page 2)*

 Bob Doyle Sheriff-Coroner-PA	 John Hawkins Chief, County Fire	 Matthew W. Frymire Chief Information Officer
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**FINANCIAL DATA**

Current F.Y. Total Cost:	\$19M	In Current Year Budget:	No
Current F.Y. Net County Cost:	\$19M	Budget Adjustment:	N/A
Annual Net County Cost:	\$93.6M over 3 years	For Fiscal Year:	2006/2007

<b>SOURCE OF FUNDS:</b> General fund designation (25%) and Long-term financing (75%)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;"><b>Positions To Be Deleted Per A-30</b></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td style="text-align: center;"><b>Requires 4/5 Vote</b></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	<b>Positions To Be Deleted Per A-30</b>	<input type="checkbox"/>	<b>Requires 4/5 Vote</b>	<input checked="" type="checkbox"/>
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<b>Requires 4/5 Vote</b>	<input checked="" type="checkbox"/>				

**C.E.O. RECOMMENDATION:** APPROVE

**County Executive Office Signature**

Consent  
 Policy  
 Consent  
 Policy  
 Dept't Recomm.:  
 Per Exec. Ofc.:

Prev. Agn. Ref.: 09/12/05 | District: ALL | Agenda Number: 3.42

PURCHAS INC  
 FACILITIES MANAGEMENT  
 Departmental Concurrence  
 JAN 22 2007  
 COUNTY COUNSEL

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**SUBJECT:** Approve the contract award for the implementation of an enhanced 800 MHz Radio System with Motorola, Inc.

**BACKGROUND: (Continued)**

The Board of Supervisors, Executive Office, Sheriff's Department, Fire, Riverside County Information Technology (RCIT) and other stakeholders have made a commitment to resolving the County's 800 MHz radio coverage issues. It is apparent that the existing system no longer meets the County's needs for radio coverage, and population growth within the County has necessitated the expansion of the coverage footprint. The Board directed all stakeholders to work together to resolve this issue.

The Board established an Executive Steering Committee to include key executive staff from the Sheriff's Department, Fire Department, Facilities Management, RCIT and the Executive Office to monitor the 800 MHz project's progress and make high-level decisions. The Board also established the Public Safety Enterprise Communication (PSEC) Project Team comprised of technical staff from the participating departments to provide the technical expertise for the project. Additionally, two Board of Supervisors members meet regularly with Sheriff, Fire, and RCIT staff for project progress reports.

In response to the Board's directive, the County released a Request for Proposal (RFP) in April 2005, to solicit plans for resolving the County's 800 MHz radio coverage issues. On September 15, 2005 RFP responses were received from MA-COM and Motorola, Inc. During the course of the extensive RFP evaluation process, the PSEC team met repeatedly with both vendors to clarify gaps in their proposals and to give them a fair opportunity to provide their most accurate and complete responses. Addenda to the RFP were issued by the County to obtain more detailed vendor responses to better meet the County's requirements and address vendors' questions about technical specifications. County Counsel was included throughout the evaluation process, with subject matter experts from various departments participating as needed. The team also retained the services of RCC Consulting for technical support and Katz Law Office, P.C. and Sonnenschein Nath & Rosenthal LLP for specialized legal counsel.

The current system cost estimate is \$148.3 million, consisting of the following major components:

Vendor Contract	\$104.4M
Land Acquisition	\$8.6M
Contract and Land Contingency (10%)	\$11.3M
PSEC Team Operations (4 yrs)	\$24M
<b>Estimate of Total System Cost</b>	<b>\$148.3M</b>

**Project Costs:**

A financial subcommittee comprised of staff from the Executive Office, Sheriff, RCIT, Fire and Facilities Management reviewed the two cost proposals submitted and identified Motorola's response as the most responsive project submittal. Motorola's project proposal is \$104,438,000 and is projected to take 44 months. Total system cost will be finalized following completion of the detailed design phase in April 2008. MA-COM's best and final offer came in at \$106,395,099 and was projected to take 66 months. Based on the detailed analysis conducted by the project team and lessons learned from other agencies, we believe that project change orders will be minimal.

Motorola proposes a project payment schedule over the next 44 months. In the FY2006-2007 Mid-Year Budget Report on today's agenda, the Executive Office will present a recommendation on the financing/funding of this project.

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**PSEC Team Costs:**

In the FY05/06 Third Quarter Report, the Board was advised that the PSEC Project Team budget for the next two years was estimated at \$5 million to \$6 million annually to support the various County staff involved in the successful implementation of a new radio system. The PSEC Team has since further defined the role of the various staff assignments and will be submitting a \$6 million proposed budget request to the Executive Office during the FY07/08 budget cycle.

Total system cost will be finalized following completion of the detailed design phase in April 2008. The Executive Steering Committee will seek Board approval of the final project cost at that time.

**Vendor Award:**

After completing an extensive formal evaluation of the RFP responses, including revised vendor responses, and subsequent dual contract negotiations with both vendors, the PSEC Project Team presented their recommendation to the Executive Steering Committee. The Executive Steering Committee reviewed the recommendation and concurs that Motorola, Inc. is the best qualified vendor and has submitted the best proposal to meet the County's requirements.

Motorola offers a solution that will:

- Provide 95% primary message success rate and coverage over 95% of the geographic area of the County. In April 2006, current system radio coverage was estimated at 60% providing coverage primarily for population centers and transportation corridors. Reliability was estimated at an 80% primary message success rate.
- Address officer safety issues
- Provide a multi-band (700MHz, 800MHz, and VHF) radio that automatically switches frequencies as required
- Provide end-to-end encryption
- Expand voice and data system capacity
- Maximize use of existing tower sites and equipment
- Provide wide area high performance data network and throughput
- Provide a high level of interoperability
- Provide 4.9GHz wireless hot-spot solution for the Fire and Sheriff Departments

Motorola has identified the following list of major milestones in the 44-month project schedule:

Final detailed design plan	13 months (Begins March 2007)
Site construction	18 months
Acceptance testing	6 months
Implementation	5 months
Revisions and Refinements	2 months

**Project Scope and Deliverables:**

The vendor will provide the following materials and perform the following services:

- Prepare a final detailed design of the radio system to include documented configuration, installation, and testing
- Construction of all additional antenna sites necessary to achieve the radio coverage and traffic-carrying capacity requirements
- Proposal of a new frequency plan, and/or a new talk-group plan, to achieve the desired radio coverage and traffic-carrying capacity requirements
- Seamless real-time, on-demand wireless communications network for public safety and service agencies serving the County of Riverside
- Multiple access to VHF, 800MHz, 700MHz and mutual aid users
- A multi-frequency solution for interoperability with separate agency radio systems
- Dispatch locations that can work independently on a day-to-day basis or dispatch county-wide when required as one seamless network

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- A high level of interoperability
- Ability for each member agency to own and operate the necessary dispatch, microwave and subscriber radio equipment required to connect/operate on the new voice and data systems
- Redundancy throughout the system to assure reliability

**Project Variables:**

The success of this project is dependent on the cooperation and dedication of all technical experts from the participating departments. Both Motorola and the County will have certain and defined responsibilities to accomplish. Following are project variables that Motorola and the County will need to address:

Site Acquisition - A major activity that impacts the success of the project is the timely acquisition of the identified new communication sites after the final design plan has been prepared and approved. Both responding vendors identified this as the most significant activity that can delay the project. Facilities Management is tasked with acquiring the sites defined by the vendor. If the defined sites are not acquired within the project schedule, it will delay the project timeline and the County will be required to pay additional contract costs to the vendor (which could be significant) if project timelines are not met.

Motorola's proposal identifies 55 new sites. As reported earlier, site acquisition costs are the County's responsibility and are not included in the vendor's cost proposal. The cost of the land as well as the cost of extending utilities will vary by site. Facilities Management's original cost estimates for site acquisition was \$120,000 to \$150,000 which did not include utility costs. Current costs for site acquisition are estimated at \$8.6 million and utility costs are still an unknown factor.

Rebanding – The Federal Communications Commission (FCC) mandates the move of Public Safety 800 MHz frequencies to a lower part of the frequency range. The move is required to be complete in 2008. Motorola's design configuration will address the County's rebanding obligations.

Project 25 Phase II – The Association of Public-Safety Communications Officials (APCO) is scheduled to adopt radio standards for public safety in February 2007. Vendors are expected to adopt the standard and begin shipping new radio products in late 2008. Motorola has incorporated a transition plan in their proposal to address this important issue.

700MHz frequencies – The FCC is asking that all Public Safety systems begin planning their move to 700 MHz frequencies in 2009. The County will maintain the 800 MHz frequencies as well as the 700 MHz frequencies. Utilization of both frequencies will provide for expanded voice and data transmission. Motorola's multi-band radio will be compatible with the 700 MHz frequencies.

**Interoperability**

Interoperability between two separate radio networks requires both the use of technology and agreements (MOUs) between both parties. The proposed PSEC system will provide the County with the capability to initiate our side of the interoperability registration (making the second party's radios known to the County's system). Action must occur on the second party's radio network (making the County's radios known to the second party's system) to assure that interoperability is active between the two separate radio networks. The agreements and registration must be addressed jointly between the two parties; the County is not able to initiate the second party's action on its own.

If the second party becomes a part of the proposed PSEC Radio System, interoperability becomes a non-issue, as the second party will use radios acquired through PSEC and known to the County system (as will be the County Sheriff and Fire).

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### **Municipality participation in the PSEC Project**

The scope of the PSEC Project was to identify and address the voice and data coverage and growth requirements of the County Sheriff and Fire. These requirements did include enhancing interoperability with other County agencies and municipalities.

The PSEC system coverage is designed to provide radio coverage of all the cities within Riverside County. County Sheriff and Fire personnel must provide mutual aid to, and travel through cities as part of their responsibilities. The need for radio coverage within incorporated city boundaries was a requirement for PSEC from the beginning.

Attempts were made through WRCOG and CVAG to query cities about their interest and involvement in this project, at that time the County was informed that there was not an immediate interest and that the cities would await implementation of PSEC before any such decision was made. Therefore, the PSEC Project Team did not estimate the radio requirements for local cities. It may be necessary to add additional repeater(s) or site(s) once each city's unique requirements are known.

Cities and government agencies that choose to participate in the completed PSEC system would be required to "release" use of their licensed 800MHz and VHF frequencies to PSEC in order to provide sufficient frequencies to meet the city's needs. Cities and government agencies would also be required to obtain PSEC standard radio equipment (hand-held and mobile) through the County.

Although the Sheriff and Fire have business models in place to provide complete public safety contract services for municipalities, no such model exists for municipalities requiring only radio services. Efforts to-date for development of a cost model for any municipality wishing to join a County regional effort have only been discussed as part of the Riverside County Interagency Communications Network, and were not within the scope of the PSEC Project. This model will need to be developed once the full cost of operation is better understood. The soonest that these operational costs will be identified will be after completion of the final system design.

### **Riverside County Interagency Communications Network**

In parallel with the PSEC Project the County is also championing the development of a "regional" radio communications network. The goals of this effort are;

- Develop a regional radio communication system to ensure all government agencies within the county can communicate effectively.
- Share limited radio channels so agencies can support growing demands.
- Provide full interoperability for First Responders.
- Share a common system to reduce operational costs.

The Riverside County Interagency Communications Network Project Steering Committee was formed and is made up of city managers, police, and fire chiefs for the eastern and western ends of the county, as well as the county executive office, sheriff, and county fire chief. Committee participants have agreed that there should be a regional system, however, the committee has not yet committed to using the awarded PSEC System.

As a part of this ongoing effort, the committee has agreed to a number of recommendations and has tasked a subcommittee to determine if a JPA or Consortia form of governance would be best suited to govern the operations of the Riverside County Interagency Communications Network. The subcommittee recently achieved consensus with the County Fire and Police Chiefs associations to recommend a consortia form of governance. A meeting of the Steering

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Committee is currently being scheduled to ratify this direction so that the governing memorandum of understanding can be developed.

**Summary:**

Various committees and project staff such as the Executive Steering Committee, the PSEC Project Team, the financial sub-committee, legal counsel, and industry experts have scrutinized the vendor proposals and the final contract, with the recommendation of moving forward with the Motorola award. Upon the Board's approval of this award, the PSEC Project Team will begin work on the final design plan. The PSEC team will provide monthly status reports and quarterly updates to the Board on the project.