



Memorandum

TO: HONORABLE MAYOR AND
CITY COUNCIL

FROM: Scott P. Johnson

SUBJECT: SEE BELOW

DATE: May 25, 2005

Approved

Date

6/1/05

Council District: City-Wide

**SUBJECT: REPORT ON THE SOLE SOURCE PURCHASE OF MOTOROLA XTS5000
AND MOTOROLA EX600 PORTABLE RADIOS FOR THE POLICE
DEPARTMENT**

RECOMMENDATION

Approve the sole source purchase of 60 Motorola XTS5000 portable radios, related accessories and extended warranties and 60 Motorola EX600 portable radios and related accessories from Motorola, Inc (San Mateo, CA) for a total cost not to exceed \$313,947.90, including tax, delivery, 3-year extended warranty, and authorize the Director of Finance to execute the purchase order.

BACKGROUND

The Police Department has requested the purchase of 60 Motorola XTS5000 portable radios, related accessories and extended warranty and 60 Motorola EX600 portable radios and related accessories. The Motorola XTS5000 radios have been purchased with extended warranties to reduce repair costs for the next three years.

Both models of the Motorola portable radios are currently in use by the Police Department and are part of the portable radio inventory normally maintained by Information Technology Department Construction and Conveyance Fund 397. The portable radios are used to equip police officers during major call-out events such as major disasters or other emergency responses. The Motorola XTS5000 radios allow encryption for secure radio transmission and public safety officers the ability to directly access our neighbor agency police channels that are in the 450-520 MHz band. The radios have direct interoperability with the police departments of Campbell, Los Gatos, Los Altos, Milpitas, Sunnyvale and Palo Alto. In addition, the Motorola XTS5000 radio has a software upgrade that will allow use on the Police Department's digital radio channel, which utilizes enhanced speech security. The Motorola EX600 radios are to be used in situations that do not require secured transmission or inter-agency connectivity.

ANALYSIS

The City of San Jose has standardized on radios manufactured by Motorola since 1984. Due to the complexity and degree of engineering requirements for these radios, they are only available directly from Motorola. On October 18, 2004, the General Services Director approved the attached standardization of Motorola brand mobile, portable, and base-station radios and related equipment for one year.

Pricing is based on the Western States Contract Alliance Agreement (WSCA), which is a volume discount agreement based on the aggregate purchase volume from fifteen western states.

OUTCOME

To provide ongoing public safety services to the residents and visitors of San Jose.

PUBLIC OUTREACH

Not applicable.

COORDINATION

This memorandum has been coordinated with the City Manager's Budget Office, the Police Department, Information Technology Department, and the City Attorney's Office.

COST IMPLICATIONS

This item is consistent with the Council approved Budget Strategy. General Principal #2, "We must focus on protecting vital core City services."

May 25, 2005

Subject: Report on Motorola XTS5000 and EX600 Portable Radios for Police Department

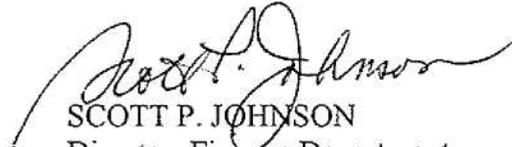
Page 3

BUDGET REFERENCE

Fund #	Appn.#	Appn. Name	RC#	Total Appn.	Amt for Contract	2004-2005 Adopted Budget Page	Last Budget Action (Date, Ord No.)
001	6075	PD-INTEROP COMM RADIO GRANT	429	\$581,415	\$153,320.11	Capital Budget Page V- 957	3/22/2005, 27382
001	0502	NP/EQUIP- POLICE	886	\$17,397,649	\$62,318.63		2004-2005 Adopted Budget page V11-294
001	3324	FY2004-05 CONGRESS MANDT AWARD	884	\$98,948	\$98,309.16	27318	December 14, 2004

CEQA

Not a project.


SCOTT P. JOHNSON
Director, Finance Department

ATTACHMENT A – STANDARDIZATION REQUEST FORM

Department Contact Information

Department and Contact Information: Information Technology / Patricia Gibbons

Required Contract Information

Contractor: Motorola Commercial Government and Industrial Sector Solutions (CGISS)

Address: 805 E. MIDDLEFIELD ROAD, MOUNTAIN VIEW, CALIFORNIA

Contact Person and Telephone Number: Paolo Caltagirone, Account Manager
voice: (650) 577-0339,
cell: (650) 678-5477
FAX: (650) 577-0333

Type of Product / Service Offered (briefly describe): Land-mobile two-way radio products and related items.

Complete responses must be provided for all of the items listed below

A. GENERAL INFORMATION:

What are the performance requirements for the product you are requesting?

- Effective service support is required by the City's Radio Communications Program, and maintenance facility.
 - Of the 7,000 pieces of mobile, hand-held, and base station equipment that is supported on a City-wide basis, it is estimated that less than 1% of this total (.085%) is equipment other than Motorola brand.
 - With Motorola's wide-range of product offerings, reliable and rugged equipment is available in low-tier, mid-tier, and high-tier price ranges without the need to adopt equipment from other manufacturers.
 - See additional comments in the attached memo.
- Cost-effective parts availability is available when the maintenance facility's stockroom is able to purchase repair parts from one vendor, in this case Motorola's central parts depot in Schaumburg Illinois.
 - See additional comments in the attached memo.
- Cost-effective training results when standardized on a specific brand of equipment.
 - Service and maintenance manuals are written from a common perspective, and with a consistent "look & feel" when are from a single manufacturer.
 - Programming software for different models of equipment are essentially similar when they are from a standardized manufacturer.
 - See additional comments in the attached memo.
- Consistent end-user operation capability will result when standardized on a particular manufacturer.
 - With the adoption of the "Syntor-X9000" mobile radio by Motorola in the 1988-1990 time frame. All later models of the high-power and mid-power remote mount radios consistently used the "series 9000"

remote control head. Use of a remote control head in public safety vehicles results in standardized placement of the user controls that are needed to change channels and operate related functions of the mobile radio equipment. Without standardization, such consistency would not occur, especially if mobile radios from more than one manufacturer were to be adopted.

- o In the case of Motorola-branded mobile radio equipment, as model numbers are replaced with newer equipment, the controls that are available to the user of the equipment will tend to be essentially the same.
- o A further example is the current project to replace the Motorola Spectra-A9 series radios with the newer Astro Spectra W4 series equipment. In this case, it is estimated that \$88,000 in parts and labor will be saved by the City of San Jose due to the ability to utilize an existing radio control cable which is already installed in the Police Department's vehicles.
- o See additional comments in the attached memo.

What products could potentially meet these performance requirements?

Only Motorola-brand equipment will meet the requirements stated above, due to the fact that 99.91% of the existing fleet of mobile, hand-held, and paging receivers that are used on City radio networks are Motorola-brand equipment.

What market research was conducted, including evaluation of other items considered? Were there other items with less restrictive specifications available? (Describe your efforts to identify other goods/services that could have been procured to meet your requirement and indicate why those alternatives were deemed inappropriate or unavailable. Please include the names and addresses of suppliers contacted and the reasons for not considering them, OR explain why the survey or effort to identify other goods/services was not performed.)

"OR explain why the survey or effort to identify other goods/services was not performed."

No survey is currently under way due to extreme time constraints in the approval of a pending order of 161 mobile radios in which grant funding will be lost if the order is not approved. Federal grant funding, on a General Fund reimbursement basis, was made available for early replacement of 161 mobile radios with a newer model that provides direct interoperability with other local police department networks.

B. PRICE ANALYSIS:

What pricing information was obtained?

From past order history, Motorola provides a minimum discount of 15% per unit when orders are less than 15 units, along with higher discounts in the 20% to 35% range with orders larger than 15 units. In addition, the City of San Jose will receive the same pricing on Motorola equipment that other local agencies receive on their purchase.

Describe any cost savings realized or costs avoided by acquiring only this product versus other products. (For "standardization" requests please explain significant costs savings or other significant benefits (i.e. enhance timeliness, quality, compalibility, functionality etc.). Refer to the San Jose municipal code, Section 4.12.149 for additional information on standardization requirements.

Cost-savings are realized with standardization on Motorola products, and most all of the various models of equipment are available from any dealer that sells Motorola equipment. Competition still exists in the market place due to competitive bidding between Motorola dealers.

As stated above, in the current case with the replacment of 161 Motorola Spectra-A9 mobile radios with the newer Astro-Spectra W4 sets, existing control cables can be utilized which connect the mobile radio control head, located in the front of the vehicle, to the remote-mount radio which is located in the trunk of the vehicle. A specific cost-savings of \$88,000 will result with the ability to use Motorola-brand equipment. This type of savings will most likely occur in the future with other similar models of equipment, and a related savings would not occur with models from other manufacturers.

See additional information in the attached memo.

Memorandum

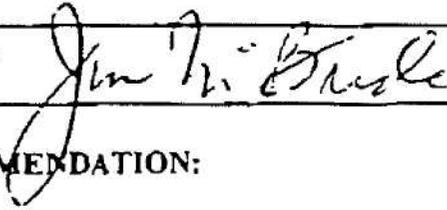
TO: Jim Mc Bride

FROM: James Helmer

SUBJECT: Standardization Request
Motorola Communications Equipment

DATE: October 6, 2004

Approved



Date

10/18/04

RECOMMENDATION:

It is recommended the Director of General Services approve standardize on Motorola brand mobile, portable, base-station radios, and related communications equipment. It is my understanding that a request for equipment standardization be provided to the Department of General Services on an annual basis.

Attached is a copy of the most recent request for standardization for Motorola radio communications equipment. Also attached is an updated standardization request form.

BACKGROUND:

The City of San Jose, because of its size and operational necessities, operates diverse and technically sophisticated radio communications systems for all of its public safety and non-public safety Departments. Nineteen different models of radio communications equipment are required to meet system configurations and requirements. Each of these models require spare radios, replacement circuit boards, and other parts in order to limit equipment downtime and serve the needs of our customer departments in an efficient manner.

An industry problem that the City faces in making radio purchases from multiple manufacturers is that there is no direct interchangeability of equipment between different manufacturers. Most options and cabling kits are unique between manufacturing companies. Changing out mobile radios in vehicles with spare units rely on the availability of already installed accessories for the particular mobile radio unit, otherwise a complete removal and re-install of the radio cabling, control head, microphone, and speaker units are required. A complete removal and re-installation in such cases will typically require a total of 10 hours of shop labor in each specific instance. Such cases would require a vehicle to be out of service for the customer for at least two days. Standardization on spares limit this trade-out time to approximately 20 minutes per instance instead of better than 10 hours.

Standardization is permitted under Section 4.12.149 of the San Jose Municipal Code, "When the Director of General Services has determined it is required by the health, safety, or welfare of the public or employees; or significant cost-savings are demonstrated."

The Director of General Services, in 1984, approved standardization on Motorola radio equipment after many prolonged problems with non-Motorola radio equipment. Standardization was accomplished under the requirements of the Municipal Code. This action was ratified by City Council on November 8, 1984, and the most recent renewal, by the Department of General Services, of the standardization with Motorola equipment was in January/February 1992. As a result of the City Auditor's recommendation and Audit Report 90-08, recommendation #7, that the Director of General Services "Re-examine and re-document the justification for ongoing standardization purchases of communications equipment", the need for standardization has again been reviewed and updated. Again, it has been determined because of the safety concerns for employees and because of significant cost savings, as outlined below, standardization should continue with Motorola radio communications products.

Within the time frame of 1995-2000, an attempt was made by the manager of the Radio Communications Program to utilize after-market replacement batteries for the Police Department's hand-held radios. Even after an analysis of batteries from several different manufacturers, the type and model finally selected proved problematic; as there were physical, manufacturing tolerance problems encountered between the aftermarket batteries, and the Motorola charger units, which are installed at the Police Department's Central Supply unit. The result was a request from the Police Department to continue with Motorola brand, factory-supplied batteries.

There are rare instances where standardization may not be adhered to, especially with mobile and portable radio accessories, when customer department requirements cannot be met with Motorola brand-name equipment. Specifically this has been the case for the remote speaker-microphone units that are used with the newer Motorola "XTS"-series hand-held radio. In this instance, Motorola does not supply a speaker-microphone that has an earphone jack installed on the microphone unit itself. In such cases, aftermarket alternatives are adopted when a suitable Motorola part number does not meet the customer requirements.

**Municipal Code Citations regarding Standardization:
4.12.149A:**

Repair and maintenance costs are minimized.

Only one set, per technician, of Motorola test equipment is required for all various models of communications equipment. There is no compatibility between manufacturers for unique test fixturing, programming support, programming software, or cables. Additional test equipment and fixturing would be required for each non-standardized model of radio communications equipment added to the City's radio networks.

Only spare Motorola radios are required. There would be no interchangeability between models of mobile radio equipment from differing manufacturers of two-way radio communications equipment. The need for additional non-standardized spare radios is eliminated.

Maintenance personnel become more proficient, and therefore more cost effective, with standardization. Repair and maintenance procedures are common between standardized models, but not between different manufacturers. Installers become more proficient, and therefore more cost effective, with standardization.

4.12.149B

User training would be facilitated.

Critical radio controls are not standard between manufacturers. Standardization reduces training time for Police, and Fire, and other Department users.

Officer safety is vastly improved because standardization leads to the ability to locate and operate a mobile or portable radio's controls during high stress incidents. This is something not accomplished when using equipment of similar types from multiple manufacturers.

4.12.149C

Supplies or spare parts would be minimized

The need to stock additional spare parts for each non-standardized radio is eliminated.

The need to stock additional spare radios for each non-standardized radio model is eliminated. This is a considerable cost item, even under a standardization program. The City's Communications Maintenance facility supports 19 different models, due to system, frequency, and specialized function parameters.

For each new, non-standardized model, and manufacturer, one or more spare radios would be required to support the sub-fleet of installed equipment, along with a spare parts equivalent to 1-1/2 times the cost of the radio, to a maximum of 10 percent of the overall cost of the equipment being added to the city's vehicle fleet.

4.12.149D

Modifications to existing equipment would not be necessary.

Modification of, or procuring new test harnesses for bench testing is eliminated. This becomes proportionally more costly as the number of non-standardized radios increases. Motorola has adopted specific test fixtures and metering adaptors that are specific to Motorola hand-held (portable), and mobile radios. Adopting other brands of equipment would require the purchase of additional types of support equipment, fixturing, and radio programming software.

4.12.149E

Training on repair by maintenance personnel would be minimized.

Our technicians are trained to repair and maintain 19 different models of currently standardized equipment. The cost of training averages \$800 per model, per technician. Each new model and manufacturer added would result in an additional cost of approximately \$6400 for training, and \$4500 in lost productive wages.

4.12.149F

Matching existing supplies, materials, or equipment, is required for proper operation of a function or program.

The radio systems are very complex and state of the art. Various accessories are used to provide operational needs. Most are technically proprietary to each manufacturer.

The following standardized Motorola equipment has proprietary technical options that are incompatible with any other manufacturer's similar options:

- Fire Mobiles and portables – Status reporting, unit ID, and Emergency Signaling
- Police Mobiles and portables – Unit ID, and Emergency Signaling.
- Police & Fire Department mobile and portable radio modems – The Motorola 800 MHz mobile data network relies on Motorola's "RD-LAP" messaging protocol for connectivity between the 911-dispatch center, and the Motorola radio modems used in Police and Fire Department vehicles.
- Ultra-high capacity batteries for all hand-held radios. – Recent experience with an attempt to use after-market manufacturers of rechargeable batteries has proved problematic.
- Vehicular chargers and mobile vehicular adaptors (convertacorns) for hand-held radios
- Police hand-held radio carrying cases.


James Helmer
Acting Chief Information Officer
Information Technology Department

