

II. FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

Fiscal Years	2012	2013	2014	2015	2016
Capital Expenditures	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>
Operating Costs	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>
External Revenues	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>
Program Income (County)	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>
In-Kind Match (County)	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>
NET FISCAL IMPACT	<u><u>-0-</u></u>	<u><u>-0-</u></u>	<u><u>-0-</u></u>	<u><u>-0-</u></u>	<u><u>-0-</u></u>

ADDITIONAL FTE

POSITION (Cumulative)

Is Item Included in Current Budget? Yes No

Budget Account No: Fund Department Unit Object

Reporting Category

B. Recommended Sources of Funds/Summary of Fiscal Impact:

This item has no immediate fiscal impact. When a contract is approved, it will ultimately be funded from a combination of funding sources that can only be used for System purposes.

C. Departmental Fiscal Review: _____

III. REVIEW COMMENTS:

A. OFMB Fiscal and/or Contract Development & Control Comments:

[Signature] 8/14/12
OFMB
8/13/12

[Signature] 8/15/12
Contract Dev. and Control
8-15-12

B. Legal Sufficiency:

[Signature] 8/17/12
Assistant County Attorney

C. Other Department Review:

Background and Policy Issues Continued

System Background

Palm Beach County's County-Wide Public Safety 800 MHz system is a 10 tower, 28 channel Motorola SmartZone Version 3.0 designed and procured in 1998 and placed into operation in 2000 in both the digital and analog modes. The System is a Mixed-Mode system where the majority of the communications is analog and the digital sub-system allows for encryption that is used on a limited basis. Each tower site utilizes transmit combiners, transmit antennas and a receive antenna with an amplifier/receive multi-coupler (together referred to as RF Equipment). The County also operates a conventional six site, three channel mutual aid system co-located with the System.

The System is robust in that there is a high level of redundancy in the design, utilizing dual (redundant) central controllers and a microwave communications system that connects the System's sites together in a loop configuration. The System's prime site is at a different location than the mutual aid sites and in the event of a complete loss of the 800 MHz system, users can operate on the mutual aid channels. All sites operate from uninterruptable power supplies and have one or more emergency generators as back-up. At the time of procurement, it was anticipated that the end of life for the System would be 2013. In fact, only the MSE has passed its useful life and the balance of the System should continue to function thru the decade.

The System includes a total of 14 dispatch centers within Palm Beach County with a total of 63 dispatch consoles. There are approximately 11,579 subscriber units directly affiliated with the System. The System supports:

- Palm Beach County Fire Rescue and all contracted cities and cities within a fire service MSU, and/or participate in the countywide fire/recue communications dispatch program;
- Palm Beach County Sheriff's Office and the thirteen (13) cities which have chosen PBSO as its law enforcement agency;
- County emergency management functions including EMS providers and hospitals;
- County public works departments;
- Eight (8) PBC cities, the State Attorney, and the Port of Palm Beach that have no radio systems of their own relying solely on the County (Direct Connect); and.
- Boca Raton, Boynton Beach and Delray Beach (Hub Connect Cities) who operate their own 800 MHz trunked radio system by which each of their trunked voice radio systems are controlled by the County's MSE.
- Eleven (11) cities and other governmental entities within Palm Beach County that have their own 800 MHz systems connect to the system via common talk groups.

By interlocal agreement, the County is required to fund equipment changes to the Direct Connect and Hub Connect cities made necessary to maintain interoperability solely as a result of a decision by the County so the costs are included as "County costs" in the remainder of the analysis.

The remaining twelve (12) PBC cities, three (3) local counties, and twenty eight(28) non-PBC cities and certain non-governmental organizations (e.g. Red Cross) all have interoperability with the System through the use of common talk groups via an operational arrangement.

MSE Renewal Replacement Project

This renewal/replacement meets the conditions of the Purchasing Ordinance of there being only one product that can meet the need and that it is available through only one source (Motorola). Taking that analysis to the next level, the following questions can be asked; 1) is the renewal/replacement project needed, 2) are there any alternatives to the MSE replacement project, and 3) does the MSE renewal/replacement strategy meet the County's needs.

Is the renewal/replacement project needed?

The County's current policy and practice with regard to determining the need for renewal/replacement capital projects is to maximize the life of any infrastructure and replace only those items that are no longer supportable and/or where the impact associated with a failure of the infrastructure may likely result in life and safety risk, operational disruption and/or cause damage to other related infrastructure

Background and Policy Issues Continued

components. The MSE meets two of the three internal criteria for replacement: life/safety risk and operational disruption.

The MSE has reached end of life status and a major failure could lead to extended repair times. Replacement parts for the MSE are no longer available from Motorola and the only availability is by salvaging or buying parts from others' whose systems have already been replaced. Therefore, both hardware and software support lessens as new parts are not being manufactured.

The County does have a maintenance contract with Motorola, but Motorola's ability to respond to a major system outage has been degraded. Technical and engineering support is no longer provided through Motorola's System Support Center. The County's Service Maintenance Agreement to be renewed by September 30, 2012 will include "best effort" response language with regard to the MSE equipment.

Staff cannot recommend that the County reduce the redundancy of the System or rely on the availability of salvaged parts for mission critical public safety applications. The replacement of the MSE would ensure part availability and eliminate the "best effort" response language from the maintenance contract.

Is there an alternative to the MSE replacement project?

The alternatives to the MSE replacement project are to either: 1) do nothing or 2) replace the entire System. The "do nothing" option is not recommended as the ability to maintain continuous operations, which requires the ability to maintain and support the infrastructure, is required for this critical public safety system. The complete system replacement would allow the County to address the need for the MSE replacement in a competitive manner, but also require: 1) replacement of infrastructure which does not require replacement at a cost approximately 10 times as great, and 2) result in the loss of interoperability with those partners choosing not to or who cannot afford to replace their systems or equipment.

While the complete system replacement option is not recommended it is used in the remainder of the analysis solely for comparative purposes.

Does the renewal/replacement project approach meet the County needs?

Infrastructure needs

The MSE is the only one of the four sub-systems (MSE, RF Equipment, Dispatch Consoles, and Subscriber Units) which has reached end of life status. The replacement cost of the MSE subsystem is approximately 10% of the replacement cost for the entire system. The other three components of the system RF equipment (replacement value approximately \$14,006,000), dispatch consoles (replacement value approximately \$2,100,000) and subscriber units (replacement value approximately \$29,927,000) have life spans through at least 12/31/20, 12/31/18 and 12/31/18, respectively. Replacing only the MSE now allows the County to make use of the full expected life of the remaining 90% of the system.

Operational needs

The users of the System have expressed the need for 1) the renewal/replacement project to minimize the downtime and cutover issues, 2) maintain the same, or greater, level of interoperability, 3) not force any partner to fund separate renewal/replacement projects or lose interoperability, and 4) to regain the ability to add new dispatch consoles.

The proposed replacement of the MSE will result in short disruptions to console operations with alternative maintenance of all system services. A complete system replacement would result in the need for duplicative infrastructure (consoles, microwave, electrical, and heating/cooling at all tower sites) and a complex coordinated cutover from one system to another. Therefore the MSE replacement choice minimizes costs, the cutover period and disruption to service.

The MSE renewal/replacement will maintain the current level of interoperability that the County has with all its governmental partners. Over the air communications will not change. Partner radio equipment will remain fully compatible operating in the digital and/or analog mode. The complete system replacement option would result in significant changes to the level of interoperability unless all County Departments

Background and Policy Issues Continued

and partners upgraded their systems to be compatible with a new County system. Assuming that the County would implement a P25 compliant (new Federal Standard) radio system as its replacement system, only users with P25 capable radios would be able to operate on the system. Many of the existing partners have non-P25 capable radios and these radios would no longer have access to the County's 16 common talk-groups and would be required to use the conventional 800 MHz mutual aid channels. The mutual aid channels, though a valuable resource, does not provide the same level of radio coverage and operational efficiency as the County's common talkgroups.

If the County were to replace the entire system at this time, the following impacts would occur:

- PBSO, PBC Fire Rescue and the PBC municipalities would have to accelerate their multi-year purchase plans for dispatch consoles and subscriber units (PBSO, FR and all direct connect municipalities' cost would be the County's financial responsibility);
- Boca Raton, Delray Beach, and Boynton Beach would be forced to replace their system infrastructure in addition to their consoles and subscriber units; and
- All other counties and non-PBC cities would be forced to replace their non-P25 capable subscribers or lose interoperability.

Based on the current inventory of radios, there are about 1,545 radios that are upgradable to P25, 2,784 radios that are P25 capable and about 7,250 subscribers which are not P25 capable and would have to be replaced. The cost can vary widely, but the estimated cost to replace and complete the upgrade for all non-P25 capable subscribers is approximately \$29,927,000. As indicated before, many the users have multi-year programs to replace the radios over time, some agencies do not have any plans. Similarly, dispatch console replacements could reach approximately \$2,777,777 for all entities and approximately \$722,222 for non-County entities, which has not been budgeted by any of the agencies. The County's MSE renewal/replacement strategy allows for additional consoles to be added to the System.

Conclusion

The replacement of only the MSE meets the County's needs and is the least cost, least disruptive alternative at this time. At the end of the decade, when the balance of the system has reached the end of its useful life or has been upgraded to P25 standards, it will be possible to evaluate full system alternatives in a cost effective circumstance.



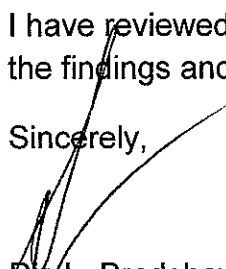
July 31, 2012

Audrey Wolf, Facilities Director
Facilities Development and Operations
2633 Vista Parkway
West Palm Beach, FL 33411

Dear Audrey,

I have reviewed the attached memo regarding the radio system upgrades. I agree with the findings and would like to move forward with the upgrades.

Sincerely,


Ric L. Bradshaw
Sheriff

PALM BEACH COUNTY
SHERIFF'S OFFICE
RIC L. BRADSHAW, SHERIFF



INTER-OFFICE MEMORANDUM
2130 Radio Services

TO: Director Lueghausen

DATE: August 6, 2012

FROM: Ray Carlson, D/M

FILE: [FILE]

SUBJECT: Radio System upgrades

After reviewing the extensive consultant's report and the County's detailed analysis for their Phase I upgrades, I recommend we support the replacement of the legacy "Smartzone 3.Z" master site equipment with the current generation products, which is the "Smartzone 7.X" platform.

This will provide the following, the first being the most critical:

- The current legacy equipment cannot be repaired if catastrophic damage should occur at any site. Systems still in service are relying on inventoried spare parts which are no longer being manufactured.
- The replacement of the master site equipment is the next step in migration to an APCO P-25 platform planned for the future.
- System reliability will be increased and downtime will be greatly reduced.
- System expansion can occur, which the current systems cannot accept.
- Lastly, this should serve the County for the next 10-14 years with minimal costs for maintenance.

*Conrad
Carl E. J. [Signature]*
8-8-12

*J. Conrad
A.M. Lueghausen*