

Memorandum



Date: July 20, 2010

To: Honorable Chairman Dennis C. Moss
and Members, Board of County Commissioners

From: George M. Burgess
County Manager

Subject: Supplement No. 2 to Modification of Contract No. BW7514-15/24-2: 450MHZ
UHF Radio System Upgrade Project

Supplement No.2 to
Agenda Item No.
14(A)19

On July 15, 2010, the Health, Public Safety & Intergovernmental Committee forwarded this item with a favorable recommendation to the July 20, 2010 Board of County Commissioners (Board) agenda. The action was subject to further clarification regarding criticality, specific costs and timelines for the items included in the contract. This supplement provides the requested information.

The request to modify the 450 MHz contract includes three distinct components: a countywide microwave system, completion of the 450 MHz UHF radio system that supports Miami-Dade Fire Rescue (MDFR), and the acquisition of radio consoles to outfit the Lightspeed facility as a dispatch center for MDFR.

Countywide Microwave System

- Cost - \$5,960,000

Following a careful, detailed review of the needs of the 800 MHz and 450 MHz public safety radio systems, associated costs, and the opportunity to obtain a comprehensive countywide solution, the Enterprise Technology Services (ETSD) and Miami- Dade Fire Rescue Departments worked collaboratively to develop an effective solution to address critical communications requirements. The requested funding will be used to purchase a single countywide system supporting the 800 MHz radio rebanding project approved by the Board in January 2010 and the MDFR's 450MHz radio system communications systems.

- Critical Dates

September 17, 2010 – Frequencies reserved by the Federal Communication Commission (FCC) expire.

Renewals for frequency applications are only provided for six month intervals and the current period is scheduled to expire September 17, 2010. It is important to approve acquisition and installation of the countywide microwave system to preserve access to these microwave frequencies that are needed for the countywide microwave system. If the County were to lose these valuable frequencies, it is likely that replacement frequencies will not be available in the future. These frequencies are in higher demand than ever due to market conditions. In addition to public safety communications users, the local exchange, long distance, and cellular carriers use these frequencies to provide voice and data communications services to the general public. In executing the contract modification, the

County will show that affirmative action to build the microwave system is being taken, thus the risk of losing the frequencies is reduced.

June 1, 2012 – New microwave system must be operational.

- 1) To comply with a Federal Communications Commission (FCC) Rebanding Order, in January of 2010, this Board approved a contract to reband and improve the County's 800 MHz communications infrastructure. (A copy of the Manager's Rebanding Recommendation is attached hereto). The Rebanding Order allowed the County to recover over \$75 million dollars of its rebanding costs if rebanding was accomplished within the timeframes of the approved contract. As expected under the contract, the County must purchase and install a microwave system by June 1, 2012. Should the County not meet this deadline, the County may lose the FCC mandated contribution towards rebanding and may incur significant additional expenses from delays in the construction schedule of the 800 MHz rebanding contract. The FCC has required the County to prepare and file a status report regarding the progress of the rebanding contract and any failure to procure the necessary equipment would need to be disclosed therein. The next project status report required by the FCC is scheduled on October 1, 2010. While this contractual obligation may be met by exercising the \$3 million dollar option included in the rebanding contract, purchasing a single microwave through the proposed contract modification can meet both the needs of the 800 MHz system and the 450 MHz system and will save the County \$2.9 million dollars in the aggregate and forego the valuable synergies to be achieved by having a single integrated microwave system network including maintenance and support for a single system rather than two independent microwave systems.
- 2) The 800 MHz rebanding project implementation is being conducted under contract by the Harris Corporation. Installation of the countywide microwave system is being conducted by Motorola and is scheduled to take approximately eighteen months from contract execution. Based on the implementation schedule, if this contract modification is approved by the Board in July 2010, the microwave project can be completed by mid-February 2012. This will provide approximately three months to test microwave-to-radio integration, perform load tests and finalize acceptance tests to comply with independent 800 MHz rebanding contractual commitments with Harris and the FCC. If approved in September 2010, the County will have only one month to complete the work as stated above. This delay poses considerable risk for a project of this magnitude.
- 3) If this is not approved, the County must then exercise the more limited microwave option already approved by the Board in January of 2010 under a separate contract with Harris Corporation. Exercising this option will allow the County to meet its obligations with the FCC mandate to vacate and release the radio frequencies. The Board should be aware that this option is for a microwave system that will only serve the new 800 MHz radio system for the Miami-Dade Police Department, Miami-Dade Corrections and Rehabilitation, as well as other departments and municipal agencies, **at a cost of \$3 million.** However, the County will be foregoing the valuable **synergies to be achieved by having a single integrated microwave system network.**

- Additional Risks

MDFR requires secure and reliable communications on the 450 MHz system. Currently, the 450 MHz system infrastructure is built on T-1 land lines that are vulnerable to the elements, interference, and subject to failure from water, flooding, power outages, and damage from construction. **On average, MDFR experiences one to two T-1 line failures per month that are defined as serious outages.** These outages can last from a few seconds to hours jeopardizing emergency communications and firefighter safety. Implementation of the microwave system will reduce MDFR's dependence on the T-1 lines and enhance the reliability of this system. Additionally, failure to upgrade to a public safety grade microwave system means that the current public safety vulnerabilities, that are inherent in land line based systems, will not be mitigated.

Purchasing the integrated application and associated frequencies as a single countywide microwave system is estimated to cost \$5.96 million as proposed in this recommendation. The savings opportunity of combining the 800 MHz and 450 MHz microwave needs is \$900K. Additional costs associated with strengthening towers to accommodate two separate microwave systems are estimated to cost \$2 million. **Therefore, the overall cost effect of not approving the recommended combined microwave solution may reach \$2.9 million dollars in the aggregate.**

Although there is no direct relationship between this project and narrow banding, funds expended for this microwave system will prove to be a worthwhile investment when narrow banding occurs as it will provide a strong foundation and the critical reliability necessary to ensure a stable and effective communication system. Narrow banding is a FCC mandate that must be implemented by January, 2013. The mandate is to enhance spectrum efficiency and improve the use of the frequencies already in place by reducing the size of the frequency spectrum by fifty percent. Narrow banding will require engineering studies to determine coverage, signal strength, and in building penetration.

Completion of 450 MHz UHF System Phase 2 Implementation

- Cost: \$1,064,000

Completion of Phase 2 implementation is necessary to improve communications in west central and east central Miami-Dade County, increasing in-building penetration for MDFR communications throughout central Miami-Dade County to meet MDFR's operational needs as established in the current scope of work. There are two tower sites that are yet to be constructed to complete the UHF Radio System Project. The two remaining sites are: Cape Florida on Key Biscayne and the Miami-Dade Solid Waste Management Department site on NW 58th Street. Both sites are within the scope of the project and were previously approved by the BCC.

Initially the site chosen for Key Biscayne was the Sonesta Beach Hotel. After contract award the Sonesta Beach Hotel was sold and the building was demolished. Although the lease agreement was secured, no UHF equipment was installed due to the change in ownership. Multiple attempts to secure another site and negotiate the lease agreement increased the time delays and costs associated with the work to be completed that was not anticipated in

the original project allocation. MDFR plans to implement this site in an existing tower and shelter that are located in the Cape Florida area of Key Biscayne.

Similarly, when the contract was awarded, the South Florida Water Management District (SFWMD) site on NW 58th Street, which has a tower and shelter, was selected. MDFR was informed that this site could be used. However, a couple of years later, SFWMD changed their internal tower load capacity policy to adhere to a stricter standard, which prevented MDFR from installing their 450 MHz antennas on the tower. Since then, multiple County and private sites along NW 58th Street have been evaluated to build a new monopole and install a new shelter, which has increased the time delays to complete this site. The cost of the new monopole and shelter were not included in the original project's scope of work since the project costs were estimated on using an existing tower and shelter at the SFWMD site. Recently, MDFR reached an agreement with the Solid Waste Management Department to implement the County's radio site at their location on NW 58th Street, located between the City of Doral and Medley.

- **Critical Needs**

Completion of Phase 2 implementation will provide critical in-building penetration capability needed for MDFR operational communications. In-building signal penetration provides the ability to talk over the radio within large and dense structures, which is critical to firefighting and EMS communications. **The reduction or loss in signal has the potential to jeopardize the safety of first responders working in hazardous conditions, and may minimize the opportunity to effectively rescue victims in emergency events.** These additional sites are required to complete the 450 MHz project and necessary for the countywide microwave system sites to be installed to complete the project by the June 1, 2012 deadline, when the new microwave system must be operational, as defined above in the Critical Dates section.

Lightspeed Consoles

- Cost: \$2,597,000

The Lightspeed facility is designed to house all emergency communications including 911 dispatches for the Miami-Dade Police Department (MDPD) and MDFR. MDFR requires sixteen radio consoles, parts, and associated services to ensure redundancy and maintain current communication needs. Approval of this purchase will allow for MDFR communications to move to the Lightspeed facility in the future and create redundancy for critical communications ensuring continuity of operations should the current data processing communications center facility become inoperable.

- **Critical Needs**

If this purchase is not funded there will be a future delay in implementing MDFR dispatch communications at the Lightspeed facility. MDFR requires the radio console purchase to support the Fire dispatch operations at Lightspeed. There is also the potential to pay higher costs in the future for the required radio console equipment. Having both the MDPD and

MDFR 911 dispatch communications operations within the Lightspeed facility will ensure continuity and reliability of service to the community. In the event MDPD and MDFR are not able to co-locate at the Data Processing Communications Center due to failure for any reason no facility exists that provides a true redundant communication center. Furthermore, if there is a failure of the Computer Aided Dispatch (CAD) System, and it becomes inoperable, MDPD and MDFR rely on a manual card system to assign units and dispatch the appropriate resources. This manual process must be accomplished with both entities working at the same location to ensure reliability.

We must finish the MDFR project as originally planned to provide the appropriate reliability of the radio system. In acquiring and deploying the microwave system, the County will realize at least \$2.9 million in estimated savings. Furthermore, approving this item at this time will ensure that the County can meet its obligations with respect to the FCC mandated rebanding program previously approved by this Board.

Therefore, it is strongly recommended that the board approve this action in order to mitigate public safety vulnerabilities as well as to position the County to meet its 800 MHz rebanding obligations in the most cost effective manner.


Assistant County Manager

Memorandum



Date: January 28, 2010

To: Honorable Chairman Dennis C. Moss
and Members, Board of County Commissioners

From: Carlos Alvarez
County Mayor

George M. Burgess
County Manager

Subject: Resolution Waiving Formal Bid Procedures to Authorize the Execution of Agreements with Nextel South Corp, and Harris Corporation, Pursuant to a Federal Communication Commission Mandate

Agenda Item No. 2(A)(1)

Recommendation

It is recommended that the Board of County Commissioners (Board) waive formal bid procedures pursuant to Section 5.03(D) of the Home Rule Charter and Section 2-8.1(b) of the Code of Miami-Dade County, and approve the attached Frequency Reconfiguration and Settlement Agreement (FRSA) with Nextel South Corp. (Nextel) and the attached Radio Communication System Purchase Contract (RCSPC) with Harris Corporation (Harris). These actions will allow the County to vacate radio frequencies consistent with a Federal Communication Commission (FCC) mandate, and to acquire a new radio system that will operate under new frequencies.

Through this settlement, in addition to complying with FCC mandates, the County will receive a new system that meets its requirements for interoperability and reliability. The rebanding effort as required by FCC and the ensuing agreements provide the County with a system that has an estimated market value of \$165,000,000 which also addresses public safety radio replacement needs. However, the County is only responsible to pay \$25,000,000 under the agreement with Harris.

Scope

The 800 MHz radio system network supports public safety and general government functions that are Countywide and multi-jurisdictional in nature.

Miami-Dade County has one of the nation's largest 800 MHz radio telecommunication systems, supporting approximately 30,000 radios, and over 8 million monthly transmissions. The system is more than 15 years old and has become increasingly expensive to maintain. Additionally, the system does not support open standard interoperability features with other agencies. Multiple County departments and external entities depend on this system to perform their core functions, including Police, Corrections & Rehabilitation, Transit, Public Works, Water & Sewer, Airport, Seaport, the School Board and 27 participating municipalities, supporting both the public safety and general government operations. In addition to the local agencies, numerous other state and federal agencies depend on this system for day-to-day communication among first responders, joint immediate response to natural disasters, and special events requiring the formation of multi-jurisdictional task forces.

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Under the FCC Order, Nextel's obligation is simply to reband existing equipment to operate in the new frequencies. In the event that there is equipment that cannot be rebanded, then Nextel's obligation is to provide radio terminal equipment. The terminal equipment does not need to be new, but would need to meet the same material conditions as the equipment being replaced. Additionally, Nextel is not obligated to provide new infrastructure to replace the County's aging system. There are approximately 10,000 radios in the County that Nextel would have had to replace. Under this scenario it is estimated that this simple approach to rebanding would have represented no more than \$35,000,000 in costs to Nextel.

Based on the agreed approach between the parties:

1. Under the settlement agreement, Nextel will provide the County with up to 24,000 radios, including portable, mobile and control station units. These units will meet the open standard radio communication protocol, known as Project 25 (P25), which the Department of Homeland Security supports as a standard to improve radio communication between first responders from diverse agencies. The radios will work on both the existing Harris proprietary infrastructure owned by the County, as well as the new infrastructure that will be deployed over the five year implementation period. These radios, which are being received at no charge to the County, have a market value that exceeds \$90,000,000.
2. Harris will supply and install the matching P25 infrastructure equipment for a new radio system, over a period estimated to take 5 years, at a cost of \$25,000,000. In the absence of this agreement, the County could be expected to pay approximately \$75,000,000 for the same equipment and services to replace the 15 year old radio communications infrastructure.

In addition to the P25 radio system, the County has also included options to buy a replacement microwave system to replace the existing 15 year old system, as well as an adjunct radio system (OpenSky) for MDTA. OpenSky will serve as a comprehensive single communication link for MDTA projected new CAD/AVL system.

The settlement with Nextel and the agreement with Harris present the County with a unique opportunity to meet the FCC mandate to vacate its existing frequencies, and as a result of the selected methodology, facilitate an upgrade to its legacy 800 MHz radio system to an interoperable system at substantially discounted prices. By acquiring the new system from Harris, the County will be able to maintain its existing system fully functional with all available capacity until such a time as the new system is operational and accepted by the County. As an open technology, there will be opportunities for competition in the acquisition of additional radio units after system implementation. It is therefore recommended that the attached contracts with Nextel South Corp. and Harris Corporation be approved.

Where necessary, in the interest of public safety, schedules A, B and C in the FRSA with Nextel, and Exhibit A in the RCSPC with Harris, have been redacted, pursuant to section 119.071 of the Florida Statutes.

Pertinent information regarding the Radio Communication System Purchase Contract is listed below.

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Consistent with the public safety nature of radio communications, the County sought a resolution that made certain as a primary goal that the 800 MHz system would be maintained fully operational and at the highest available capacity during the re-banding process.

As negotiations proceeded, the parties could not come to an agreement on the methodology to be followed and the related costs to Nextel. Because agreement was not reached during voluntary negotiations, on October 2, 2008, the parties entered into negotiations under FCC processes supervised by the Transition Administrator (TA), an entity assigned by the FCC, to mediate the negotiations. If the parties could not reach agreement during mediation, the next step would have been for the TA to make recommendations to the FCC regarding how to resolve the impasse, a process known as Proposed Resolution Memoranda (PRM). Thereafter, the FCC would impose their determination on the parties as to how to proceed.

Throughout the negotiations, the County's goal has been to ensure that capacity and performance are not adversely affected during the transition, and that the rebanding process would be completed with minimal operational disruption. By mid 2009, it became apparent that the parties would not be able to come to an agreement on the methodology, a situation that would have triggered FCC intervention to determine an outcome.

In order to prepare for this eventuality, on July 21, 2009, management requested and the Board approved a resolution to advertise and award a contract to acquire specialized professional services, to assist the County Attorney's Office with the FCC processes that would ensue if the parties failed to reach agreement. The professional services contract was awarded; however, because the parties reached agreement since then, these services are not presently needed.

As a decision on whether to enter into the PRM process approached, all the parties realized that there were advantages to reach agreement and avoid the PRM process, which would most likely have resulted in decisions that would not be in their best interests. Nextel was interested in quickly settling their obligations to the County under the FCC orders, and the County wanted to avoid the risks associated with potential FCC decisions that would not take into account its concerns regarding the desired reconfiguration methodology to minimize system interruptions. As a result, the parties began to discuss ways to meet their respective objectives towards reaching a potential settlement.

By the end of July 2009, an agreement in principle was reached. Nextel and the County jointly requested from the FCC that the mediated negotiations be suspended to allow for the completion of the agreements before the Board today. The FCC has agreed to the suspension of the mediation process on the condition that mediation would resume if the parties did not finalize and execute the agreements (including an agreement with Harris to implement the solution associated with the settlement), prior to January 29, 2010.

The parties have now reached final agreement as to the manner in which Nextel could satisfy its obligations, and the County could meet its goals to achieve rebanding without affecting public safety. Harris Corporation is the proprietary manufacturer of the County's existing 800 MHz radio system, and provides parts, components, maintenance and support services required to keep the system operational. This resolution covers both the settlement agreement with Nextel and a system purchase and implementation agreement with Harris.

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Fiscal Impact/Funding Source

As part of the settlement under the FRSA, Nextel will provide up to 24,000 new radios, to replace existing radios, with an estimated market value in excess of \$90,000,000. The remaining radios in the inventory, approximately 6,000, do not need to be replaced.

The allocation requested under the RCSPA with Harris is \$35,000,000, covering the following:

- 1) Acquisition of new radio system infrastructure at a cost of \$25,000,000. This amount is payable over a period of five years, as milestones are met by Harris.
- 2) Two options to acquire adjunct radio systems under this contract, one to acquire a new microwave infrastructure to support the new P25 radio system at a cost not to exceed \$3,000,000, and the other for a new OpenSky communication system for Miami-Dade Transit (MDT) at a cost not to exceed \$4,000,000. While a new microwave system is a requirement to implement the new P25 radio system, the County would like to explore other alternatives in the market place prior to exercising the option under this contract.
- 3) The balance of the allocation under the RCSPA, \$3,000,000, which will only be accessed subject to budget appropriations, will support the current system as necessary during the implementation and transition to the new system, including emergency services, through the five year term of the contract.

The purchase will utilize funds allocated to acquire replacement radios on a pay-as-you-go basis over the next five years. The initial funding is part of the capital outlay reserve allocation for replacement of public safety radios. Future funding will also be sought from proprietary departments and municipalities to replace radios assigned to those entities.

Track Record/Monitor

There are no contractual performance issues between the County and either Nextel or Harris. Felix Perez, Radio Services Division Director at the Enterprise Technology Services Department will be responsible for monitoring these agreements.

Background

Over the past decade, public safety and other radio systems occupying the 800 MHz band (including the current County system) have experienced radio frequency interference as a result of the growth in adjacent commercial bands. As utilization of the adjacent bands proliferated, radio frequency interference problems became more prevalent. In order to minimize the harmful interference to public safety radio communications systems operating in the band, on August 6, 2004, the Federal Communication Commission (FCC) issued a report and order to modify its rules governing the 800 MHz band. Users of this band, including Miami-Dade County, were ordered to reconfigure their operations by engaging in a frequency "swap," known as "rebanding," with Nextel, to eliminate the interference.

On July 24 2007, the Board authorized the execution of a Planning Funding Agreement (PFA) with Nextel, to establish the County's needs in connection with the reconfiguration of the County's 800 MHz radio communication system and begin negotiations.

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and Members, Board of County Commissioners
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CONTRACT NUMBER: BW9203-3/21
CONTRACT TITLE: Radio Communication System Purchase Contract
TERM: Initial five year term with three, two-year options-to-renew (OTRs)
CONTRACT AMOUNT: \$35,000,000 for the initial five year term including maintenance and options. Should the County exercise all available options-to-renew the estimated total value of the contract is \$38,600,000 based on a fixed amount of \$1.2 million per OTR term.

USING AGENCY AND FUNDING SOURCES:

| Department | Allocation Request | Funding Sources | Project Manager(s) |
|------------|--------------------|---------------------------------------|-----------------------------|
| ETSD | \$35,000,000 | Capital Funds, Internal Service Funds | Felix Perez Martha Oliva |

PREVIOUS CONTRACT AMOUNT: Not Applicable

METHOD OF AWARD: Bid Waiver

VENDOR RECOMMENDED FOR AWARD:

| <u>Vendor:</u> | <u>Address</u> | <u>Principal</u> |
|--|--|-------------------|
| Harris Corporation (Non-local Vendor) | 1025 NASA Boulevard Melbourne, FL 32919 | Eugene Cavallucci |

PERFORMANCE DATA: There are no performance issues with the awarded firm.

COMPLIANCE DATA: There are no compliance issues with the awarded firm.

CONTRACT MEASURES: No measure – Bid Waiver

REVIEW COMMITTEE DATE: November 10, 2009; 2-03

LIVING WAGE: The Living Wage Ordinance does not apply.

USER ACCESS PROGRAM: The contract includes the User Access Program provision. The 2% program discount will be collected on all purchases.

LOCAL PREFERENCE: Not Applicable

CONTRACT MANAGER(S): Felix Perez, Enterprise Technology Services Department

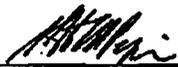
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ESTIMATED CONTRACT
COMMENCEMENT DATE:

Upon approval by the Board and expiration of the mayoral
veto period.


Assistant County Manager

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