Memorandum

MIAMI-DADE COUNTY

Date: July 20, 2010

Supplement to Agenda Item NO. 14A19

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

From: George M. Burgess
County Manager

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

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On June 10, 2010, a recommendation to approve a modification to the referenced contract was added to the Health, Public Safety & Intergovernmental committee agenda. This supplement will better define and address the critical need for this additional spending authority to support these purchases. The modification to the contract requests additional spending authority to complete implementation of the 450 MHz UHF Radio System, to purchase and implement a new countywide Microwave Radio System, and purchase console equipment to outfit the Lightspeed facility.

Approval of the contract modification is critical to ensure the County gains access to the radio frequencies currently being held in reserve status with the Federal Communication Commission (FCC) through September 2010. Because of the high market demand for these frequencies, if the County does not take concrete steps to procure the licenses for these frequencies, the FCC may allocate them to other non-public safety users. Should the County fail to secure this frequency spectrum, our ability to provide public safety communications services to first responders would be diminished. Additionally, the microwave technology is needed to migrate the County's communication from cables (land lines) which are the least desirable communication network, to high frequency radio systems. Commercial land lines are much more susceptibility to power failures, cable failures and damages, and extended outages from flooding and/or severe weather events, all of which can create major communication issues.

The County has been working on several alternatives to provide a more cost effective and more economical microwave radio communication system for the County since January 2010 when the Board of County Commission (Board) approved the Frequency Reconfiguration and Settlement Agreement with Nextel South Corp., and the Radio Communication System Purchase Agreement with the Harris Corporation (collectively, the rebanding agreements). Approval of these rebanding agreements enabled the County to comply with an FCC mandate to vacate certain radio frequencies. At the time, the Board was apprised of the need to implement a new microwave system to support the rebanded radio system countywide. The option to purchase a system solely to support this effort was included as an option on the Harris contract. However, in light of the need to upgrade other county systems, including the Miami-Dade Fire and Rescue (MDFR) 450 MHz system, the Board was advised that staff would not exercise the option until other alternatives were explored that may offer increased benefits to the County.

While the option under the Harris contract would have met the requirements for the new 800 MHz systems resulting for the rebanding agreements, it would not have addressed the needs of the County's other Public Safety radio system, the Motorola 450 MHz system that supports the County's Fire services.

Since approval of the rebanding agreements, staff has been working to identify the best option for the County to acquire a new microwave system taking into account the needs of both public safety radio systems that would provide a comprehensive countywide solution and to identify additional funding sources. Since February, the County has been working with Motorola to design a system to support both systems, develop appropriate acceptance criteria, and further negotiate contract terms. The solution negotiated with Motorola represents a unified approach to meeting the goals and objectives of both the MDFR and the Enterprise Technology Services (ETSD) departments. This project will enable the County to meet the 800 MHz system rebanding obligations, and further improve the reliability of the MDFR radio system.

Benefits of Implementing a Single Microwave System

Exercising the contractual option with Motorola for a countywide microwave system, priced at $5,960,000, is a better alternative than exercising the much more limited option available under the Harris contract. Additional benefits include:

1) The County would not be in jeopardy of losing the frequencies currently in reserve with the FCC through September 2010.

   Motorola has conducted microwave field surveys and has been able to reserve the FCC licenses needed to build the new countywide Microwave System. At any time, the County could be approached by the FCC, and request the County releases the hold on the microwave licenses, and requested extensions of the hold beyond September 2010, which are not guaranteed in the absence of concrete steps to utilize frequencies. The frequencies are in higher demand than ever due to market conditions. Local exchange, long distance, and cellular carriers use these frequencies to provide communications services to the wider populations. If Miami-Dade loses the spectrum, the FCC will re-allocate the licenses to other users and public safety communications services to first responders would be diminished.

2) The current 450 MHz system sites would no longer remain on commercial T-1 lines (landlines). This current 450 MHz system was built using T-1 lines to temporarily connect communication towers and associated systems. The long term plan was to migrate these sites to a more reliable microwave system when the 450 MHz system was substantially completed. As stated above, the use of commercial T-1 lines in a Public Safety environment is the least desirable interconnecting medium for radio communications system.

3) The County would not need to acquire a separate microwave system for the 450 MHz system at a future date.

   The acquisition cost of a single countywide microwave system is estimated to be $900,000 lower than the acquisition of two separate systems. Additionally, the County owned towers, currently used to support the 800 MHz system, are not able to support multiple sets of microwave dishes for separate microwave systems, and must remain operational until all users are switched over to the new 800 MHz system in 2014.
   Therefore, if the County acquires a separate microwave system for the 450 MHz system, it is highly probable that tower infrastructure may need to be upgraded or replaced. The additional infrastructure costs are estimated at $2,000,000.

Time Sensitivity

In addition to preserving the availability of the frequencies, there is urgency associated with the rebanding project. The County is required to build a new microwave system to support the expanded growth of the 800MHz system. The existing microwave infrastructure that supports the current 800 MHz system is a technology that cannot be integrated with the new radio system being implemented by the Harris Corporation.

Pursuant to the 800 MHz rebanding agreements, the County is obligated to have the new microwave system implemented by June 2012 to be able to conduct acceptance testing for the new 800 MHz radio system that will be implemented. This will enable the County to release frequencies to the FCC by December 2012 as required and provide sufficient time to address any issues that are identified in the testing process. Therefore, it is critical to begin implementation of this the microwave system as soon as possible to avoid any consequential impact to the rebanding project.

Assistant County Manager