







# MERRIMACK POLICE DEPARTMENT

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Mark E. Doyle  
Chief of Police

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## MEMO

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**DATE:** JUNE 18, 2015  
**TO:** CHIEF MARK DOYLE  
**CC:** CAPTAIN MICHAEL DUDASH  
**FROM:** LT. PAUL TREPANEY  
**RE:** MERRIMACK FIRE RESCUE RADIO ISSUES

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The Merrimack Fire Department has been experiencing radio transmission issues increasing in frequency and duration. Independently, Fire Rescue has been communicating with the Town Communications Vendor, Ossipee Mountain Electronics (OME) about the concerns. The Fire Department has also been exploring the possibility of crossing over to a digital system from their current analog system.

Merrimack Communications, responsible for overseeing base station radio components and network, have been working with OME, developing a plan to upgrade our existing radio communications system that is approaching 20 years old. Many of the existing components are reaching life expectancy and are no longer technically supported. Adding funds to the Capital Reserve fund to support going forward with a replacement system was discussed with the Town Council during the recent budgeting process. A portion of the system responsible for Fire Rescue communications was included in this capital improvement plan for replacement.

A meeting was held between the vendor, Police and Fire officials to discuss both the current issues and future planning on Tuesday June 9, 2015. The existing proposal for the System upgrade, currently includes components for the Fire Rescue system that are dual use, analog to be used with their existing system, but also has the ability to be converted to digital use. There are challenges both financially and support wise that prohibit an immediate change to a digital system. A change to digital currently would require an immediate change of the current MFR receivers' servicing the voter system along with the voting system itself and related software at an approximate cost of \$140,000.00. MFR would also lose the existing Paging System as there is no digital support for that service. These costs do not include the cost of reprogramming existing mobile and portable radios to digital frequencies either.

The broken transmissions, as analyzed by the vendor have been attributed to the current MFR Voting system and it's related antenna. The vendor recommended servicing the existing Voting system, and the antenna. Upon further analysis, OME





estimated the cost to repair the existing voting system at between \$3,500.00 and \$4,000.00, while replacing the system with a new voting system is quoted at \$6,649.00. Replacement of the existing MFR voting system was included in the upgrade that money is currently being allocated into the Capital Reserve Fund. Additionally, the replacement of the existing antenna was recommended at a cost of \$6,619.90 for a total of \$ 13,268.90. The replacement of this antenna was also included in the proposed system upgrade, therefore any expenditures would reduce the cost of the proposed improvements.

The current problems with the radio system are primarily attributed to the age of the system. The dropped communications are a public safety issue placing our Fire Rescue personnel at risk along with the public they serve and need to be immediately addressed. I would recommend moving forward this portion of the upgrade as soon as possible, and the fact that it is moving along in line with our proposed upgrade is money better invested than in repairing an old system scheduled to be replaced.

Please feel free to contact me with any questions or concerns.



## Communications

Mark Doyle, Chief of Police, spoke of the process undertaken in arriving at a proposed budget, which represents an increase of approx. 27%. The lion's share of that is within the radio system upgrade identified under Line Item #01-05-8910-0 Capital Reserve Fund Purchases. Lt. Trepaney has worked with the radio vendor, Osipee Mountain Electronics, in discussing what needs to be done to bring the radio system from where it was when designed, nearly 15 years ago, to where it should be going 10-15 years into the future. The goal is to put something in place so that in the next 3-4 years a system could be built that is scalable and expandable over the next 10-15 years. Conceptually it is built, but, like anything else it costs a great deal to do.

Over the last 10-15 years the radio system has been expanded to include voting systems, repeaters, etc. as well updating pieces and parts that go along with it. Radio systems are no longer giant consoles that get installed in a communications center, they are all communications based to the extent they are all built into software programs that are operated from a computer terminal. These are the kinds of things the scalability of the systems is looking toward migrating to across the spectrum of communications.

This is done in order to ensure the department is rendering the best and highest level and quality of service to the citizenry and also maintaining an infrastructure that creates a safe environment for officers and public safety officials to work in. They dispatch not only for the Police Department but also for the Fire Department, Emergency Medical Services, Public Works Department, and on occasion even for the water department.

Other minor increases include an increase in Line Item #01-05-8111-0 Overtime – Other, to ensure the availability of those in the dispatch center to cover shifts that would otherwise go uncovered in the event people called out sick or because of the nature of the employee pool in the dispatch center, e.g., long-term employees having accrued vacation time, etc.

Line Item #01-05-8201-0 Office Supplies has been increased to reflect usage. Line Item #01-05-8260-0 Telephone has been increased by about \$3,000. To a larger extent that is not just telephone share or added cell phones, it is an actual reflection of the usage of the voter system costs when the system was enhanced and expanded. Line Item #01-05-8334-0 Maintenance-Office Equipment has increased slightly due to the agreement with the CAD RMS vendor for 24/7 maintenance support on that system. They are required to get the system back up and running, from an operational standpoint, within 4 hours of a service call.

Town Manager Cabanel stated the \$200,000 identified under Line Item #01-05-8510-0 Capital Reserve Fund, is a down payment for the communications equipment, which has a total cost of over \$500,000. Being proposed is setting monies aside next year and possibly the year after.

Councilor Rothhaus requested clarification on the \$7,000 increase to Line Item #01-05-8335-0 Maintenance-Communication Equip. Chief Doyle responded the majority of that is to reflect actual usage of the maintenance agreement. The equipment that houses the records management database has an associated agreement for 24/7 support from the vendor, which becomes more costly with the age of the equipment. The server in dispatch is nearing 4 years of age. Usually by the 5<sup>th</sup> or 6<sup>th</sup> year the department is ready to change it out. It is because of its age that maintenance agreements are in the \$11,000 to \$12,000/year range.



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Councilor Woods questioned whether compatibility with other systems is also considered, e.g., the ability to communicate with the Fire Department, etc. Chief Doyle stated it is. He remarked the event at 9/11 really brought that issue of interoperable communications to the forefront. The move has been to ensure we are not only buying equipment, but also buying software to work that equipment that is Association of Public-Safety Communications Officials (APCO) certifiable. They have designed and put together some standards that are being adopted by police departments, fire departments, and emergency service personnel all across the country so that when you buy equipment whether radios, mobile, console equipment, or software that drives it, it is all APCO certified. It is scalable to the point where you can start to work and communicate with other surrounding agencies whether coming from a neighboring town or another State. It is designed so that, at the flip of a switch, they can turn over to your frequency or we can turn over to theirs so that communications are fairly seamless. That is what this equipment is designed to do; provide us that infrastructure to be able to work seamlessly with other police departments regardless of whether they are on a VHF band or UHF band. There are some technological hurdles that have to be addressed because of it.

There are departments in the State right now that are on different bands, and we can't talk to them. The State is working very closely with all departments to make sure that the IP bridges and infrastructure is designed in such a way that we can have that seamless communication without missing valuable information. He remarked if having to go to a city like Nashua or Manchester where we can't now just flip that switch, there are redundancies built in place that will allow it to work on the short term while we work together to build and expand upon current infrastructures.

Councilor Koenig questioned the lifecycle on the communication equipment, and whether the Town is just now starting to save the necessary funds (\$500,000+). Chief Doyle stated what the department has seen happen over the past few years is parts and pieces of the module's design that really comprise our communication system have started to fail. It is starting to add up in the short-term. The problem is that they don't make the stuff anymore. There was an instance where the department had to have a crystal built, which took 4 months, and came at a large cost. With regard to the future purchase, Chief Doyle stated the unit is designed in such a way it will be module based.

Lt. Paul Trepaney remarked when the microwave failed in 2012 they talked with the vendor about replacement. The vendor said by replacing it, he was hoping we could get 10-15 years more out of our system, but the technologies had already become outdated.

All components would have to be addressed, e.g., going away from copper phone lines that a lot of the receivers send into the voting system now to an IP based technology, etc. The first major item to be replaced is the microwave system, which has an associated cost of \$54,000. The next stage of replacement would be the main transmitting radio components (\$324,000). That would get the bulk of the system up to specification. The system would last another 15-20- years.

Councilor Koenig remarked if talking about a 15-year lifecycle and saving for that in 2 1/2 years, what happened to the other ten years? Director Micali responded when the microwave system was replaced, the vendor's representative stated we would be able to get another 7-10 years out of the system. All of a sudden we were informed you are outdated and you have three years and need to get up to speed. If the system breaks down parts would not be available. That is the reasoning \$175,000 had to be



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appropriated this year and another similar amount likely next year to get up to speed and make these purchases.

Councilor Rothhaus remarked the Town expended a large amount with the expectation it would extend the life of the system some 10-15 years, and now we are told we have three years remaining. That makes him question the vendor. Lt. Trepaney stated the microwave was replaced in 2012; however, this is a system that was put in place in 1999. It will be 16 years old this year. The repeater system came in after that to enhance our communications (in 2005). It was a salesman who had informed him, when experiencing difficulties getting the old technology replaced, that in the best case scenario the microwave would keep the existing system going for 10-15 years. Because of that, the department started examining how to tackle this going forward.

When going over the whole system, the gentleman that actually does the design system pointed out that the digital interface unit, which is an actual communication model that works with the dispatch consoles and the technology in the basement, is our single point of failure. If that were to fail, the department could replace it with the backup (digital interface unit). The problem is those are no longer made and the support for them ends in 2018, which is why the department is looking towards a complete system overhaul.

Councilor Boyd spoke of the discussion had in 2012, and his recollection Lt. Trepaney had stated the microwave was the beginning of something that needed to be addressed 3-5 years down the road. He remarked he is not surprised by the request.

Councilor Dwyer commented the term overhaul is not really accurate as what is being proposed is a replacement. The goal in two years is to have a completely new system that isn't based on anything old. Lt. Trepaney stated that to be correct.

Councilor Rothhaus commented with the need to replace this system in its entirety and the large expense the Fire Department will incur with regard to the purchase of SBCA equipment, it appears there is the need to anticipate a large impact in 10-15 years, and we should be saving for those expenses on a yearly basis. Councilor Dwyer stated agreement, and suggested \$15,000 - \$20,000 a year should be placed in a special communications account as a way to save for that expense. Councilor Woods spoke of the speed at which technology changes, and suggested the cycle could be more like 3-5 years. Councilor Boyd questioned whether grant funds are available. Lt. Trepaney stated each year there is a competitive grant; however, they are geared toward new technologies not replacement of redundant equipment.

Councilor Koenig commented during his time on the Council it seems as though there have been constant discussions of replacing expensive communication equipment and statements made about 10-15 year lifecycles, and yet every 2-3 years we come up with this big expense. He stated his hope the Town is looking at the overall cost of equipment and trying to put aside funding for the expense.

Lt. Trepaney remarked when discussing replacement with the vendor, it was stated the system does not have to be replaced all at once. There is the one-time cost, and then each component; microwave, replacing the voting system and main base station, and then the Fire Department portion.

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Chief Doyle stated one of the things discussed with the Finance Department is creating a CIP line to ensure savings moving forward. He commented the beauty of the system we're moving toward is not only that it is scalable and has a lifespan of 10 years, but it becomes more module. As the microwave breaks down, we replace the microwave module; we don't have to be concerned that the digital interface unit would go down with it, because it is all one part in parcel. He stated agreement with the approach of saving on a yearly basis so that when module pieces break down they can be replaced without a big impact on taxpayers.

### Police

Town Manager Cabanel stated she, Chief Doyle, and his staff sat down and discussed the department's desire to add three officers. She stated her understanding to be if there is a particular type of crime occurring in Town, they want to be able to have a team of people dedicated to eradicating it. Currently, doing so takes officers off the street. Reflected in her recommended budget, rather than adding three positions, is an addition to the overtime line items (\$28,000).

Chief Doyle stated the budget, as it stands, proposes an increase of approx. 2/10 of 1% over last year's budget. Line Item #01-04-8105-0 Overtime - Supervisory has a proposed increase, which is geared toward ensuring enough supervisory staff available when they are needed. One of the things they are finding with the communications staff is that their time and grade is getting to a point where they realize they have more time off and they are using it. Also proposed is an increase in Line Item #01-04-8107-0 Wages - Part-Time to put towards the crossing guards and Traffic Officer at Turkey Hill Road. The increase represents a small increase in salary (\$.50/hour). There is an increase in Line Item #01-04-8111-0 Overtime - Other (roughly \$28,000), which represents coverage for shifts and really goes toward the whole minimum/maximum manpower staffing concept where we have a minimum number of officers on at any given time to ensure the service to citizens, when needed, is available to them.

Line Item #01-04-8250-0 Vehicle Fuel is up slightly. That is in anticipation of rising fuel costs. Line Item #01-04-8300-0 Travel & Meetings has a proposed increase (\$1,964). This will give the department the opportunity to provide its officers and supervisors a different level of training than they otherwise would have been able to experience. Right now they are relegated to the training offered by Police Standards & Training as well as some training put out by Primex, which is great, but the opportunities are limited in scope. The desire is to provide opportunities to seek other advanced more professional training geared towards their own individual professional development. Having an increase in this line as well as an increase in Line Item #01-04-8352-0 Education & Training (\$7,500), will provide those officers and supervisors that opportunity.

There is an increase in Line Item #01-04-8321-0 Maintenance-Building (\$27,000). This is intended to address the poor lighting in the parking lots, replace lockers in the locker room, irrigation in the front of the station and around areas currently covered by sod, and replace aging brick on the outside of the building.

Line item #01-04-8335-0 Maintenance-Communications Equipment (\$10,200) is for the purchase of two new police radar units to replace the last two from 1985. They are at a point where, due to their age, replacement parts are no longer available. The cost will also cover the purchase of two brand new 100 watt radios that would replace radios purchased back in 1998.