

**CITY OF WESTBROOK-PUBLIC SAFETY COMMITTEE  
AGENDA  
MONDAY DECEMBER 11, 2017  
6:30PM  
WESTBROOK HIGH SCHOOL ROOM 114**

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- I. Engine 4 Repairs/Replacement**
- II. Replacement of Emergency Communications Radio System**



# **Engine 4 Apparatus Review**

**For**

**City Council**

**Prepared by**

**Andrew Turcotte**

**Fire Chief**

November 20, 2017  
Jerre Bryant, City Administrator  
City of Westbrook  
2 York Street  
Westbrook, ME 04092

Dear Jerre,

The Westbrook Fire & Rescue Department's Engine 4 was inspected for overall physical condition, general maintenance and compliance with current operating and safety standards by Greenwood, the regional E-One Vendor. In conjunction with the inspections and maintenance records the annual test records were also reviewed.

The National Fire Protection Association (NFPA) publishes NFPA 1901 Standard for Automotive Fire Apparatus which sets the minimum design and construction standards that manufacturers must meet or exceed for any emergency service apparatus with a gross vehicle weight of 10,000lbs or more. In the 1991 version of the NFPA 1901 standard, several design mandates that concentrated on operator and occupant safety were incorporated into the standard. As the standard continues to evolve safety has become a major focus of apparatus design and construction

In 2007, NFPA 1911, Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus was published. This standard consolidated several older standards that governed in-service testing of apparatus and their major components into one standard. New to this standard is the inclusion of criteria on apparatus inspection and maintenance, guidelines to service life of apparatus, establishment of out-of-service conditions, and recommendations for the retirement of apparatus. In conjunction with and often referenced in the NFPA standards are Department of Transportation (DOT), Federal Motor Vehicle Safety Standards (FMVSS), Society Of Automotive Engineers (SAE), along with other nationally recognized standards. The Maine state motor vehicle regulations must also be adhered to.

The inspections of the apparatus operated by Westbrook Fire & Rescue Department and recommendations made as to maintenance, retirement and replacement are based on these NFPA standards, several industry standards and generally accepted industry practices.

The Insurance Services Office (ISO) sets and grades Fire Departments on their ability to respond and mitigate emergencies in their community. They have wide ranging criteria that in part reviews response times, apparatus needed, location of fire houses, water supply, communications, written mutual aid agreements and miscellaneous other criteria. In addition to their own criteria, ISO relies heavily on NFPA standards, codes and other referenced national codes in their risk assessment. Based on this analysis, the ISO then creates what they consider to be the minimum necessary resources for the community to mitigate fire and other property damaging events. Insufficient grades received as a result of an ISO review can cause an increase in insurance costs for property owners and renters.

When purchasing new equipment and maintaining existing apparatus, it is important to make sure ISO recommendations are followed so that the community's rating is maintained or improved.

A detailed report on Engine 4 based on information from Greenwood technicians, engineers, and our Public Safety EVT Shawn Adams is summarized in this package. The goal is to work with EVT Adams and possibly a third party apparatus consultant and provide Mayor Sanphy, City Administration, and the City Council with a full Apparatus Fleet Review. The Apparatus Fleet Review would provide a detailed report on each vehicle as well as the recommendations pertinent to each vehicle.

I also want to note that E4 has two sister trucks in the area. The City of South Portland and Town of Windham have E-One apparatus similar to E4 and both trucks have had similar issues with their frame rails, electrical issues, etc. In fact, the City of South Portland took their E-One permanently out of service due to delaminating (rust/rot) frame rails this past year and they are currently in the process of purchasing a new quint.

It is anticipated that this report on Engine 4 and the Apparatus Fleet Review will assist us all with making fleet management decisions to include long range capital replacement planning.

Sincerely,

Andrew R. Turcotte  
Fire Chief

## Westbrook Fire & Rescue Department



**Figure 1**

*2004 E-One HP 75 Quint  
Manufactured August 2004  
Registration Number: 403-562*

*Mileage: 89,733  
Engine Hours: 9,643.4*

### **Vehicle Weight Chart**

	<b>Rated</b>	<b>Actual</b>
<b>Gross Vehicle Weight</b>	49,700 lbs.	
<b>Front Axle</b>	18,700 lbs.	
<b>Rear Axle</b>	31,000 lbs.	

Engine 4 is an E-One custom cab and chassis assembly with a Cyclone II model cab that seats six (6) in a fully enclosed cab. The apparatus body is an extruded aluminum rear mount aerial body carrying 500 gallons of water and is powered by a Cummins ISM-450 diesel motor and an Allison EVS4000 automatic transmission. Equipped with a 75' rear mount aerial ladder and Hale fire pump with a 2000 gallon per minute (gpm) rated capacity. Engine 4 carries 91' of ground ladders, exceeding the 85' minimum required for "Quint" designation.

Inspection of Engine 4 showed it to be in good physical condition with the exception of the frame rails and some other cosmetic and electrical issues that were identified in the inspection. The truck overall is in good mechanical condition now that the engine had a complete overhaul. As you recall, in 2015 the engine had a complete overhaul and the turbo unit was replaced. During the past couple of years, repairs to the following were also made: hydraulic lines to the outriggers, emergency power unit to hydraulics, coolant leak, power steering leak, pump packing and other misc. items.

The biggest problem with this apparatus is its general physical condition and the fact that it has significant rust and rot issues. The rust and rot conditions are more extensive than you would expect to see on a vehicle of this age and more extensive than can be attributed to the chemical deicing agents used on public roads during the winter months. Also, with this apparatus, the rust and rot conditions do not seem to affect a particular component or area but are spread virtually throughout the vehicle in varying degrees along the frame rails. Despite the cosmetic issues from exposure to road treatments the cab/body are still sound.

Engine 4 is equipped with a Hale Model QMAX fire pump rated at 2000 gallons per minute (gpm). Review of the pump test records (2015-2017) shows that Engine 4 easily passed its annual pump test and pump performance is consistent and strong, with the exception of 2016 where it failed due to the pump packing. The packing was replaced and the pump test was repeated and it passed without issue.

The aerial ladder is constructed of aircraft aluminum alloy, this positive attribute means that the aerial has no rust, need for repaint or other significant work. This is a primary reason why repairing the truck versus replacement is possible. The aerial torque box shows no significant rust issues and only needs minor clean up.



Review of the ladder test from (2009-present) show that the aerial device and its support structures were generally in good condition and where defects have been reported they were in-line and typical with the age and the type of problems often seen. With that being said, in 2009, Underwriters Laboratory who conducts our annual aerial and ground ladder testing/certificat

ion brought to our attention that the “paint was degrading off the frame, leaving base metal exposed to future delaminating corrosion.” Every year the issues of degrading of paint and delamination only worsened and in 2015 it was noted that there was “delaminating corrosion where the left rear stiffening gusset meet the stabilizer housing.”

The following pictures will illustrate the nature and extent of the corrosion problems on Engine 4, which are spread throughout the vehicle from the chassis rails to the aerial device.

Recommendations on what type of work needs to be done to mitigate some of these issues will be later in the report since the corrosion problems aren't confined to a single vehicle.

Figure 3



Figure 4





**Figure 5**



**Figure 6**



**Figures 2, 3, 4, 5, & 6 show various locations and degrees of rust and corrosion on the apparatus chassis.**

Each of these photos shows to some degree of rust, sand, dirt, and salt deposits on different surfaces of the undercarriage or frame rails. This is exactly what we need to get rinsed off the apparatus on an ongoing and regular basis. Road dirt holds moisture, contains road salts and other corrosive chemicals that promote rust and rot. The new Public Service Building has a

wash bay with undercarriage wash that will help rinse away the dirt and corrosive chemicals. Prior to this new facility, the Fire Department had no way to adequately and thoroughly rinse the undercarriage of the apparatus.

### **Observations and Recommendations**

Often times, chassis do not get the level of preventative maintenance that they should despite having certified EVT mechanics assigned to fleet, as we do in Westbrook. Part of our issue is that according to our mechanic, “we are more reactive in nature due to the volume of apparatus assigned to a single mechanic”. Our mechanic also stated that on most days, the PD or FD would be enough to keep one mechanic busy enough. To put it into perspective, our mechanic deals with apparatus when they break or when there are issues identified more often than not. I have said this before and I will say it again, we have a very competent mechanic however the volume of vehicles is overwhelming for only one individual.

We have discussed options to enhance our preventative maintenance and reduce out of service time to include but not limited to hiring additional staff to assist our EVT. We have also looked at outsourcing our FD vehicle maintenance. We currently outsource a number of our repairs to East Coast Service Center, Greenwood, Rowe Ford, etc., due to human resource limitations.

Engine 4 has rust and rot conditions beyond what would be considered normal for its age. Engine 4's rust and rot is more substantial than what has been observed on our other apparatus. With that being said, speaking with the Greenwood Service Manager Chris Champagne, he states that ‘they see all brands of trucks in our shop and in fire stations. All brands built in the 2000's after the use of lead based frame paint have experienced similar issues. The high volume of use, failure to address frame issues when first identified and generally failing to increase maintenance in proportion to volume of use has caused this issue’.

It is easy to dismiss the rusting conditions as something that is being caused by the winter driving conditions especially since these apparatus are in use in the north east. But it really is not a fair or accurate statement to make. The chemicals and salts, in particular calcium and magnesium chloride being used on roads today are contributing factors to some rusting and rot conditions. The problems that are being caused by road deicing chemicals are being increasingly well documented. Along with that comes a better understanding of the maintenance requirements needed to combat the damage caused. Much of the damage cited in reports and the types of conditions found are coming from the over the road trucking industry who's vehicles see a much greater exposure to road chemicals than fire apparatus. The lessons learned from this trucking industry can be very valuable to the fire service.

Westbrook Fire & Rescue Department operates other apparatus that is older than Engine 4. None of these vehicles have rust or rot conditions anywhere near as extensive as Engine 4. Since these vehicles are older it is reasonable to conclude that they have been exposed more often and over a longer period of time to winter road conditions. Since the rust and rot conditions observed on the

older vehicles isn't as extensive as Engine 4 it is also reasonable to conclude that road deicing chemicals are not the sole source of the rust/rot conditions but a contributing factor. This would be especially true with Engine 4 which has already undergone repair for some of the rust and still has very serious rust and delamination.

According to the literature I found in FireHouse articles and in online forums, rust and rot in fire apparatus has been a problem since the late 1960s. At that point the quality of steel was being cited as the problem. The reality is that the design and assembly of the body components probably contributed just as much to the rust and rot as did the quality of the steel. Booster tanks were another weak link in the fire apparatus body. They were always wet and often made of steel, tank rot was common. As the fire service moved to poly tanks rust and rot damage moved to other parts of the apparatus, primarily the fire pump and plumbing system. This is when it became apparent that electrolysis played a major part in the booster tank rot, the tank being the sacrificial surface. The use of sacrificial anodes in the fire pump has relieved some of the problems as has the move from galvanized pipe to stainless steel and high pressure rubber.

Many lessons have been learned through the evolution of fire apparatus. Electric systems and electrical problems make up a majority of the problems/lessons learned. Some lessons were learned through testing, some through problems that became apparent as apparatus were put into service and others through observation over a period of time. Each time the fire service was presented with a problem, solutions were sought and implemented. The solutions often treated the symptoms rather than the disease. As changes were made to the methods and materials being used in the construction of apparatus the corrosion issues moved to different components of the apparatus.

Beginning in the mid-1990s the use of electronics in fire apparatus grew exponentially and possibly in some ways improperly from the standpoint of what some of the side effects are. As the use of electronics has increased the amount of electrical current flowing around the vehicle body has also significantly increased. Some industry personnel are not sure that even now the industry has a complete understanding of how the increase in electrical components has affected and increased the metal deterioration associated with electrolysis. What has become apparent is that the electrical systems need to be much more stable and that stray voltage and electrical interference needs to be better managed.

Improper or inadequate grounding was having a much greater effect than anyone realized and may be a factor in the significant corrosion/electrolysis that has been observed in fire apparatus, especially those built between the late 1990s and mid-2000s –and Engine 4 was manufactured in 2004. As the grounding of apparatus electrical systems has improved other issues have lessened, corrosion being one of them. Corrosion and electrolysis will always be with the fire service and continue to be something that needs to be managed on fire apparatus, with no complete fix. The solution or solutions will involve understanding the electrical, corrosion, and electrolysis issues better and how these issues are interrelated with each other. Making changes to the design and

installation of the electrical system and components to limit problems caused by these issues along with better management of the maintenance part of the equation will be beneficial. Grounding of the chassis and body including the fixtures and components is critical. Grounding needs to be well installed and just as importantly well maintained.

All of this brings us back to Engine 4 and their corrosion problems. It is entirely possible that the corrosion issues are being exacerbated by electrical issues and electrolysis further compounded by grounding problems. It is recommended that any of our fire apparatus that are not fully grounded, including Engine 4, be retrofitted with ground straps.

### **Apparatus Maintenance**

The Westbrook Fire & Rescue Department has a vehicle inspection protocol and a mechanism in place to report needed repairs. Westbrook Fire & Rescue Department's reporting program is very good but the inspection side of the protocol needs to be improved and expanded. In addition to daily and weekly checks a more complete apparatus inspection program that will look at the apparatus on a quarterly, semiannual, and annual basis will be expanded. Parts of these inspections can and have been done by our apparatus operators but other parts need to be performed our public safety mechanic who has the practical knowledge and understanding of heavy vehicles and the training and expertise to be able to recognize deficiencies that our firefighters may overlook. Documentation is a key factor. We currently have check lists, ways to document deficiencies, apparatus repair orders, and apparatus driver reports that are used and maintained on file.

NFPA 1911 codifies the guidelines and recommendations on apparatus inspections, inspection cycles (daily, weekly, monthly, etc), maintenance, out-of-service criteria, and retirement. NFPA 1911 is the standard that must be adhered to and should be used for guidance in establishing or modifying an apparatus inspection and maintenance program. Our administration recognizes that there is no room in today's liability driven world for not having a program in place that meets recognized standards.

Like many communities in coastal Maine and in New England in general, we get hit by a one/two punch, whereas we have environmental conditions that complicate and increase the need for apparatus preventative maintenance. Being a northeast community the apparatus is subjected the corrosive actions of the different chemicals used on public roadway during the winter months. Being a coastal community the apparatus is subjected the corrosive conditions caused by the salt air. To help combat these conditions, our staff will be following the following during the year:

- During the winter months when the roads are wet and the apparatus returns to quarters they should be given a quick rinse concentrating on the lower sections. The wheel well areas, along the bottom of the compartment body, under the rear steps, etc. Taking less

than 10 minutes to complete it removes a fair amount of the material that contributes to corrosion.

- Each front line vehicle should be run through the wash bay at Public Services a minimum of two (2) times a week. We do not recommend power washing the apparatus.
- Monthly, for each vehicle, the department will implement an apparatus cleaning program. This will encompass a complete and thorough cleaning of each vehicle beginning at the front bumper and ending at the rear step. This cleaning includes a complete washing of the apparatus, inside and out. The pump panels will be opened and the pump and plumbing rinsed. All of the tools, equipment, and floor matting will be removed from each compartment. Compartments, swept, washed, and allowed to dry. The tools, equipment, and floor matting will be washed or wiped down as needed. As this is being done, tools and equipment will be inspected for any deficiencies (dull cutting edges, cracked handles, refinishing needed) and tended to as needed. This work will be done in segments by on-duty personnel.

**The goal here is a complete and very thorough cleaning to remove salt residue, sand, and dirt from the vehicles and is not something that should be rushed through. Top of the compartment body should be cleaned, the aerial device hosed off and ground ladders done as part of this.**

### **Apparatus Replacement**

Westbrook Fire & Rescue Department has significant problems Engine 4 that need to be addressed. We also have a number of vehicles that past due for replacement, including one engine and a number of support staff vehicles. As stated, Engine 4 suffers from delaminating rust and rot conditions in varying degrees. The rust/rot conditions of this vehicle dictate that it needs to be the first priority repair/replace cycle. The question then becomes what should be done. Should it be repaired/refurbished or should it be replaced?

Repair/refurbishment should be looked at as a method to extend the life of apparatus and control cost since it is less expensive than replacing a vehicle. Since the department already owns the vehicle there is no upfront cost and the service/repair history is also familiar. Extensive repair/refurbishment also has its drawbacks because you are not getting a new vehicle, which may eliminate the ability to take advantage of the new technology that is available. There is a substantial out-of-service time for the apparatus while it under goes extensive repair work/refurbishment which means the department is without the unit. Some apparatus may not be good candidates for refurbishment or the refurbishment cost is just too high to justify. Refurbishment has to be considered on case by case basis and carefully analyzed before the decision is made.

The cost of ownership to Westbrook Fire & Rescue Department for Engine 4 has been inordinately high and this appears to be largely driven by a number of factors, including the rust/rot conditions. The cost of ownership is what it costs to keep that apparatus in service on a day to day basis. Part of the equation is out-or-service time, either for the apparatus as a

whole or a particular component of the apparatus. Another part of the equation needs to be the cost of repair/refurbishment that is after all something that will need to be paid for.

Too often when municipal budgets are being done the information in one column does not get to mesh with the information in a different column. Typically the information on what it is actually costing a fire department to keep a vehicle in service is rarely applied to the calculation of the cost of replacement. A percentage increase in maintenance or operations budgets often get passed with little or no question while a capital expense like apparatus replacement is questioned to death or dismissed as “something we could never afford”. Closer examination of the cost involved in fleet operation cost may prove otherwise.

Since routine operation and maintenance (grease, oil, filter, fuel and wear items) is basically a fixed cost for apparatus whether it is new or old, it is the cost of repairs that drives the expense of keeping a vehicle on the road. If it costs \$ 30,000.00 a year (illustrative only) to keep a vehicle in service and \$ 6,000.00 of that is operations cost, routine maintenance, and annual testing, that means that it is costing \$ 24,000.00 a year in repairs to keep the vehicle in service. New apparatus can be purchased with a standard two (2) year warranty (additional warranty can be added for extra \$\$). So in theory there is no repair cost in the first two years of ownership of new apparatus meaning that there is \$ 48,000.00 from saved operating cost that can be applied to capital purchase without any increase in the budget. When the repair cost, more accurately the reduced repair cost is extrapolated over the first five (5) or ten (10) years of vehicle ownership the savings due to reduced operating cost is even greater.

In the case of Engine 4, if the cost of refurbishment is \$ 200,000.00 (illustrative only) that figure also has to be considered when establishing a budget because you are going to spend it whether it is for a new vehicle or repairs. How many lease or bond payments towards the cost of a new (or used) apparatus would this money pay for? Add to that any money realized by the sale of Engine 4 and the department could well find they are 25-50% to the cost of a new pumper or quint with the projected savings of the cost of keeping the current unit in service.

Given the extensive rust/rot conditions on the frame of Engine 4, the scope of the work needed to do a successful repair/refurbishment and the anticipated costs both financially and in lost service time, the fire administration initially recommended moving toward the purchase of a new quint. However, after researching the delamination issues in more detail and in speaking with the E-One service manager, engineers, and our EVT technician we feel that repairing Engine 4 would make the most sense, from both an economic and operational standpoint, extending the life of the truck hopefully by 7-10 years. The E-One engineers believe the quint is generally sound and that reframing a truck chassis is more common in the heavy truck industry and becoming more normal in the fire apparatus as well, especially in situations like this. As the cost of apparatus continues to increase, the industry has to also change attitudes with regards to maintenance. The administration also had to take into

account the fact that we need to start the replacement process for an engine as soon as possible.

We have provided all of you with information regarding scope of the work as well as estimated costs for repair work. One thing to remember is that if the work is approved by council, the vendor may find additional issues with the truck and additional work may need to be completed.

Unit	Description	Year Manufactured	Year Purchased	Projected Replacement	Cost When Purchased	Replacement Cost	Miles	E-Hours
Engine 1	KME 1250 GPM	1991	1991	2012		\$425,000	114314	8609
Engine 2	Spartan/Ferrara 1250 GPM	1996	1996	2020	\$190,000	\$475,000	17440 odo-repl	7269
Engine 3	Pierce 2000 GPM	2014	2015	2029	\$485,000	\$700,000	19997	1278
Engine 4	E-one 75' Quint 2000 GPM	2004	2005	2019	\$565,000	\$1,300,000	86066	9250
Squad 1	Spartan/Hackney Heavy Rescue	2006	2006	2026	\$300,000	\$600,000	24651	1846
Rescue 1	Ford/PL Ambulance	2013	2013	2021	\$100,000 Remount	\$220,000	67842	4508
Rescue 2	Chevrolet/PL Ambulance	2012	2012	2020	\$185,000	\$215,000	93765	6605
Rescue 3	Ford/PL Ambulance	2008	2008	2016	\$160,000	\$200000 - Remount \$130k	111157	8824
Rescue 4	Ford/Braun Ambulance	2015	2016	2024	\$118000 Used/Remount	\$230,000	7555	498
Car 1	Ford Explorer Staff	2015	2015	2025	\$35,000	\$45,000	41629	1304
Car 2	Ford Explorer Staff	2016	2016	2026	\$35,000	\$46,000	14879	528
Car 3	Ford Explorer Staff	2006	2006	Was 2016 Now re-assigned	\$30,000	No Plan at this time	89370	
Car 4	Ford Explorer Staff	2006	2006	Was 2016 Now re-assigned	\$30,000	No Plan at this time	127681	
Traffic 5	Chevrolet G-van Traffic	2002	2005 (used)	2020	\$13,000	\$45,000	58573	
Unit 6	Ford F-150 FP/Investigation	2006	2006	2018	\$26,000	\$44,000	43743	
Unit 7	GMC 2500 Utility/Forestry	2002	2002	2014	\$30,000	\$46,000	58686	
Marine 1	AB Yamaha 30	2005	2007	2025	\$3,500	\$20,000		
Marine 3	Achilles Evinrude 9.9	1991	1997	None	\$1,000	None		

Red highlighted units are at or past their anticipated replacement window.

Yellow highlighted units are projected for replacement within the next 5 years.

(Figure 7) Westbrook Fire & Rescue Department Vehicle Replacement Program

## Summary

In closing, I want to thank you for allowing me to provide you with the information related to Engine 4. I hope that you recognize that there is not one single factor that contributed to Engine 4's rust issue but it was truly a combination of issues. There are also things that we will work to improve, preventative maintenance being one of them, with the goal of catching some of the smaller issues before they become larger and more costly. With that being said, there are very few departments in New England or along the coast that are immune to chassis rust/rot. In fact, I don't know of any Department that are not dealing with similar issues. With all of the issues and complaints to the manufacturers and even class action lawsuits, the manufacturers are now moving to galvanized steel versus aluminum. New frame rails which if approved by council, would be galvanized and would be warrantied for 50 years. Also, all new apparatus purchases would have galvanized frame rails so I can assure you that we will not run into this particular issue again and if we do, it will be warrantied.

Another misconception is that accepted apparatus life span is 20 years for engine and 25 years for ladders. This has changed little in decades while call volumes and the types of services being required have consistently increased. Fire Departments and the municipalities they serve need to look at whether current life span standards are still practical for their needs. There is currently a robust used apparatus market and it can make sense for a municipality to consider shorter life spans and greater resale value with the funds offsetting the cost of newer apparatus.

Keeping apparatus past expected life expectancies, except as reserve (spare), is not a good idea, often more costly than municipalities estimate and can lead to increased replacement costs. Keeping older apparatus also usually delays replacement, which has happened in our agency, which negatively affects the replacement cycles and usually costs much more in the long-term.





# Emergency Communications

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## Memorandum

To: Mr. Bryant, City Administrator  
From: Gregory A. Hamilton, Director  
Date: September 14, 2017

### **RE: Replacement of Emergency Communications Radio System**

I write to request authorization to begin the process of replacement of our emergency communications radio system. As you are aware, the City Council recently approved the total capital improvement plan of which \$300,000 was dedicated to the replacement of our aging and at times failing radio system. Having been involved in replacing an aging radio system in the past, I am very familiar with the many considerations and decisions that lie ahead for this project. Due to the size, scope, price and far reaching impact of this much need project, my plan is a systematic approach which will include all our stakeholders both internal to the City and external such as our mutual aid communities. Prior to beginning this project, I would ask for consideration on two items.

1. Understanding that each individual item within the capital plan must receive Council approval, I would like an opportunity to involve the Council prior to the project's kick off and explain further the need to replace our current system. In a sense, I would like to assure the Council is on board prior to beginning such a large undertaking.
2. My second request would be to work with our current radio vendor, Radio Communications Management (RCM) as a sole source vendor for this project. When

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I was first appointed as your communications director and was asked to manage our public safety radio systems we had several vendors for various components of our radio infrastructure. We had one vendor for the radio “system” (towers, antennas and base radios). We had one vendor for the radio consoles in the dispatch center and different vendors for end user radios for both police and fire. This arraignment created confusion, frustration and often unneeded time delays when trying to manage problems with our radios. Our first responders depend on this equipment for their very safety. We need a local vendor with a proven track record that has the expertise and experience to manage all the interconnected components of a modern radio system. My experience with RCM since my time here has been very favorable. It is my recommendation that we use RCM as our sole source vendor should this project be approved. In addition to my comments above I will bullet some additional facts for your consideration.

- RCM is the vendor for all components of our current radio system.
- RCM currently has a five-year maintenance contract with our backup center at Cumberland County and part of this project will include expanded connectivity with county infrastructure in the future.
- RCM is the vendor for our mutual aid response partners as well.
- Currently our School Department rents/leases a system from RCM. I would like to explore the possibility of partnering with our schools on a shared system. This could potentially eliminate the need for the rental/lease going forward and increase interoperability within the city.
- RCM has been in business for over 30 years is located just over one mile from the Public Safety Building on Rand Rd in Portland. Their response time when called has been outstanding.
- RCM recently completed the entire upgrade and replacement of the State of Maine’s public safety radio system as well as the Towns of Falmouth and Windham. Westbrook is Falmouth’s backup center.

In closing I will add that radio systems like much of the IT world have become increasingly complex and interdependent on outside factors. The ability to make one phone call and have one local vendor accountable when and if problem(s) arise with such a time sensitive and emergent piece of our equipment is invaluable to the public safety team.

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I will certainly make myself available to address any questions or concerns you may have. Thank you for your time and consideration.