CITY OF BLOOMINGTON

ADDENDUM

BLOOMINGTON CITY COUNCIL AGENDA

MAY 10, 2010

ADDITION TO APPOINTMENTS:

5C. Proclamations

3. Proclamation Declaring Delta Sigma Theta Sorority, Inc.

ADDITION TO REGULAR AGENDA

8C. Presentation – Police Department Radio Communication. *(Copy of City of Bloomington Police Radio Communications, Moving Forward with Interoperability "The Starcom21 Alternative" and documents from State Representative Dan Brady.)*

8D. Presentation - Hydrant Program Update. *(Copy of PowerPoint Presentation entitled 2010 Fire Hydrant Operational Testing Program.)*

ADDITION TO EXECUTIVE SESSION

12. Executive Session – Collective Bargaining, Section 2(c)(2) *and Pending Litigation, Section 2(c)(11).*

City Of Bloomington
Police Radio
Communications

Moving forward with Interoperability

“The Starcom21 Alternative”

Compiled By:
Assistant Chief Robert Siron
Communication Center Manager Darren Wolf

Purpose

The purpose of this report is focused on testing and evaluation of the Starcom 21 system. This report will give a brief history of radio communications as they relate to the Police Department. It will also give a current status of radio communications and equipment, and will also detail a possible solution "Starcom21" to address our future needs and increase our ability to operate with other agencies both in the County and throughout the State of Illinois.

History

The Bloomington Police Department operated a radio system for many years in the 450 mhz. range. This system was owned by the City and was maintained by the City. This system performed for our operations but was not a system that could readily support communications among other agencies.

In the 1990's an agreement was reached with McLean County and the Town of Normal to build a new radio system that had the capability for all of the agencies Countywide to operate on the same system. This included police agencies, fire departments, and emergency service providers as well as public works agencies throughout the County.

A design for the system was agreed upon and the system was put out for bid, with E.F. Johnson being the successful bidder. This was to be an 800 MHz digital trunked system that took advantage of technology and would have the ability for a multitude of talkgroups that would allow individual entities to talk amongst themselves, but they would also have the ability to talk easily to each other if the situation required. This was an ideal Public Safety concept as it allowed all of the Police Departments to carry on their day to day business, and also allowed them to communicate between Departments in the event of an emergency or large planned event.

The 800 MHz system went into operation in 1997 and unfortunately it was plagued with problems from its inception. Officers and others complained about poor quality of coverage and poor quality equipment. These complaints eventually lead to the system users requesting an evaluation of the system by the National Law Enforcement and Corrections Technology Center. This group is an independent group that had the expertise to identify problems and suggest solutions to those problems when appropriate.

The results of this evaluation revealed several problems with the system, including the number of tower sites and issues with other equipment located at the current tower sites. The original plan for the system asked for three towers to be chosen but the vendor suggested that in order for the system to work properly it would require seven tower sites. Eventually the decision was made to work with only the three tower sites. The original system specifications also required the user to remove the radio from their belt and hold the radio at head level to attain adequate signal strength.

As a result of this evaluation several changes were made to the system but it continued to operate in an unsatisfactory manner. The inability to make cost effective improvements to the system and the lack of confidence in the operation of the system lead the Normal Police to abandon the system in 2001 and return to their previous 400 MHz system. In 2002 the Bloomington Police also left the system after rebuilding their previous 400 MHz system and purchasing new handheld radios.

Current Status

Currently the Bloomington Police operate a city owned 400MHz radio system that consists of three tower sites and related equipment. The Police Department currently has tower sites at the following locations:

Woodhill Towers North
Woodhill Towers South
State Farm Fire Building

In addition to these tower sites there are several satellite receiver stations located around Bloomington.

The equipment in place to operate this system consists of the following:

- 134 Motorola HT1550XLS portable radios
- 3 Motorola Quantar Repeaters
- 3 Motorola SpectraTac Comparators
- 9 Motorola Quantar Satellite Receivers
    - Related Equipment
        - 6 UHF Base/Repeater Antennas
        - 3 UHF Receiver Multicouplers
        - 3 UHF Duplexers
        - 15 Site Batteries (power backup)
        - Related transmission lines, lightning suppression equipment, cables, connectors, and mounting hardware

The current system allows the Police Department to operate three radio channels for all of the police operations. This is significantly less than the previous 800 MHz system allowed, but the loss of this ability has been manageable.

Currently the City pays an annual maintenance fee for this equipment in the amount of $24,973.01. This includes maintenance for the portable radios and the repeaters, comparators, and satellite receivers. This price is likely to increase in the future in response to the age of the equipment. **Currently Motorola no longer manufactures our portable radio and will support replacement parts for only another 5 years.** The majority of our equipment other than radios is still in production but only for a limited time. Eventually this equipment will need to be replaced at a substantial cost to the City.

Starcom 21 Proposal

As a part of any possible solution, systems that are already in service and available should be explored. One such system is Starcom 21. Starcom is an 800 MHz digital trunked system that was built at the request of the State of Illinois by Motorola. The system is designed to be a statewide interoperable system that can link public agencies throughout the State.

The Starcom system went active in late 2005 and is currently in use by Normal and McLean County. These agencies were part of a grant that allowed them to purchase equipment and pay the associated fees. The City elected at the time to not participate in this grant due to the recent purchases of radios and related equipment. There was also some question at the time about the production schedule for Starcom and when it would actually go into operation.

The Bloomington Police Department recently completed a 4-month evaluation of the Starcom21 radio system. The evaluation was made possible by the assistance of the Illinois Terrorism Task Force, the Illinois Emergency Management Agency, the Illinois State Police, Motorola, Supreme Radio, and the McLean County Sheriff's Department.

Eight Starcom21 portables were given to the Bloomington Police Department for use during the course of the evaluation. The portables included a speaker/microphone, spare battery, and charger. In addition to the portables, three Starcom21 mobile radios were given to the Bloomington Police Department for a period of 5 years. The mobile radios were installed in Police and Fire Department command vehicles. The evaluation of the system was limited to the provided portable radios.

Pre-evaluation

Prior to beginning the evaluation, it was necessary to have the portable radios programmed in a manner to reflect our current operations. With that in mind, the portables were programmed with 3 test channels for our usage. Consoles in the Bloomington Communications Center were also upgraded to include the test channels. The portables were also programmed to include McLean County Sheriff Dispatch, Normal Police Dispatch, and BPD Ch1 Patch (UHF to Starcom). It was also necessary to identify a scan list for the portables. It was determined for the purpose of our evaluation, it would be best to not enable scanning.

Brief training sessions on equipment usage were conducted with staff to familiarize them with the portables and system in general. Later, during the evaluation period, it was determined that user training was a significant area of concern in regards to the new equipment. A lack of familiarity with the portables and the inherent differences between our current 400 MHz conventional analog and the proposed Starcom digital system caused mixed results during some periods of the evaluation. Additional user training was conducted with staff to assure they were aware of the proper utilization of the equipment in order to fairly evaluate the system.

Evaluation

Approximately 45 sworn and non-sworn personnel from the Police Department were involved in the evaluation of the Starcom21 System. These personnel came from the following divisions/assignments: Administration, Communications, Patrol, Street Crimes, School Resource Officer, Traffic, and Canine. The evaluation of the Starcom21 system focused on three different areas: wide-area coverage, in-building coverage, and general usability.

Wide-Area Coverage

Wide-area coverage was first evaluated in a controlled environment. Portables were assigned to staff that were not assigned to patrol or other official police duties. Personnel conducted radio checks with Bloomington Dispatch. These radio checks were conducted from numerous locations within all seven Bloomington Police patrol areas. These radio checks were conducted both will sitting in a moving police vehicle and will standing outside on street level. During this period of the evaluation, both field and dispatch personnel found the communications to be loud, clear, and free from static in the majority of instances. There were no documented problems encountered while using the portable in a controlled environment.

Wide-area coverage was also evaluated during live operations. This was done with the Traffic and Street Crimes units. All unit officers were assigned a Starcom21 portable to utilize for the course of their work shifts. The portables were used for all operational communication activities during the course of a shift. The portables were used for approximately 5 weeks of live activity between the two units. During this phase of the evaluation, several areas of concern were identified.

First, there were initial reports of the portables being unable to transmit from various locations within the City. Those reports were documented and further controlled testing was conducted in the reported problem areas. Testing was unable to duplicate the reported coverage problems. A review of system logs indicated the problem was not with the system; rather, it was a user issue. The system logs indicated that at the time problems were being reported, multiple users were attempting to access the system simultaneously. This reported problem also revealed that the portables were not programmed to alert users that they are trying to talk over each other. This problem was corrected by additional training and programming.

Second, there were reports that the volume level at the lowest setting was too loud. It was determined that this was a programmable feature that could be adjusted to a more suitable volume level. Third, many officers disliked the public-safety speaker/microphone that was attached to the portable radio. The main reasons for the dislike of the public-safety speaker/microphone were the straight cord as opposed to the coiled cord and the stubby antenna on the speaker/microphone as opposed to no antenna. This problem can be corrected by going with the standard speaker/microphone instead of the public-safety speaker/microphone. The standard model is similar to our current model in that it has a coiled cord and no antenna.

Finally, there was another concern in regards to the public-safety speaker microphone. The concern was for the incompatibility of the unit with officer's current ear pieces. Again, this concern can be addressed by utilizing the standard speaker/microphone instead of the public-safety model.

Outside of the training, programming, and "cosmetic" issues reported in the above section, there were no reports of major problems with the system. Officers reported that transmissions from Dispatch were loud and clear. Dispatch also reported that transmissions from Officers to Dispatch were loud and clear.

In-Building Coverage

In-Building Coverage was evaluated at over 200 locations within the City. This was again conducted in a controlled environment. Officers assigned to testing were not assigned any other duties at the time. Subjective performance criteria were used to determine the Delivered Audio Quality (DAQ). The subjective performance criteria ranged from DAQ 1 (unusable, speech present but unreadable), DAQ 3 (speech understandable with slight effort, occasional repetition required due to noise/distortion) and DAQ 5.0 (speech easily understood).

It should be noted that in the Starcom21 Master Contract (between Motorola and the State of Illinois), Motorola is obligated to provide the State in-building portable coverage at an audio quality of DAQ 3.0 in over 95% of the jurisdictional boundary of the Bloomington-Normal community. The Master Contract would not be a guarantee for the City of Bloomington. In-building is defined as single-story residential or retail, above-grade. During our evaluations, locations matching that definition were tested and all had a high DAQ. During evaluations, multiple floor structures and locations below grade were also included. All areas of the evaluation delivered an acceptable DAQ with the exception of locations below grade.

It should be noted that the UHF system also had transmission difficulties at below grade facilities. A major area of concern discovered during in-building evaluation was the fact that the system was not reliable in the lower level of the Bloomington Police Department facility. This is a problem that would need to be resolved prior to implementation. An in-building enhancement would be appropriate to address coverage within the Police Department. McLean County had to implement a solution to resolve the same concern in the Law and Justice Center.

General Usability

The portables were reported by most involved to be very usable and reliable. Most of the user issues reported revolved around training, programming, or "cosmetics". It was identified early in the evaluation period that if the City made the move to Starcom, we would desire a high-quality and thorough training regimen for all system users. In regards to programming, prior to in-service there would be an opportunity to go over all of the programmable features with an engineer to make sure we are realizing the full potential of the system. As far as "cosmetics" are concerned, the Department would have to evaluate all available accessories and make them available to the users. This would include speaker/microphone assemblies, ear pieces, holsters, chargers, etc.

Current Agencies that Use Starcom21 and agencies that have gone other directions

Currently the Starcom system is used by a variety of agencies throughout the State of Illinois. These users include: municipal departments, county agencies, state and federal agencies.

In McLean County, the Normal Police Department, Normal Fire Department, and the McLean County Sheriff's Department have been Starcom users for several years. During the course of our testing and evaluation of the Starcom system, those entities provided valuable information to assist in the process. They provided equipment and personnel during the testing phase and shared their experiences with the system. Both agencies were extremely satisfied with the Starcom system and the service they receive from Motorola.

As a consideration of moving to the Starcom system we decided that it would be prudent to visit additional Starcom users to determine their satisfaction with the system and with the service that they were receiving.

As a part of those visits we first visited the Decatur Police Department. We spoke there with Deputy Chief Edward Smith. Chief Smith stated that overall they were very satisfied with the system and stated that it seems to be working very well for their needs. Decatur currently provides dispatch service for all of Macon County and as such the entire County was moved over to the Starcom system. Chief Smith stated that early on there were some issues with equipment and training that were quickly dealt with my Motorola. He also stated that early on there were service issues with a receiver on a tower that took several days to be addressed and that this was unacceptable. As a result they contacted Motorola who now allows a local service center to address these problems which has greatly increased the speed of service. Chief Smith reported that they do not have a great deal of incidents where officers receive a "busy" signal, but that it does happen and that it is usually on the day shift between the hours of 0700 to 1500. He believes that this occurs due to the fact that Ameren is also on the system locally and they have a large amount of users accessing the system during those hours. He also stated that they access the system from portable radios only and have not had any issues related to coverage. The only downside Chief Smith had to the system were the lack of control of the system and the cost of the system subscription.

We also visited the Springfield Police Department where we spoke to Michael Midiri. Mr. Midiri is the Communications Director for the City of Springfield, Office of Homeland Security. Mr. Midiri stated that overall they were very happy with the system and they were unaware of any major issues with the system. He did state that training was a major piece of the implementation and should not be skimped on. He also related that communication between the system administration and the Police Department was excellent and that he was able to get information quickly and easily. He was most impressed at the systems ability to improve interoperability throughout the county and that additional resources could be brought into the county and quickly added to the system. Springfield also does not install vehicle radios is their squads for other than some supervisory personnel.

Two agencies that have chosen a different direction are Peoria County and the County of Champaign.

Peoria County is currently in the process of purchasing and building their own 800 MHz system for use by agencies in Peoria County. This system is being built by Harris Communications (formerly M/A COMM). This system will be Starcom compatible and will be similar to systems that have been built in Aurora, Naperville, and Milwaukee WI. The platform is called an OpenSky 25 system. They currently are in the process of acquiring radio tower space and hope to have the system operational in 2012. The system is planned to have multiple tower locations. They had previously tested Starcom and found it to be a good system but they were not satisfied with the level of control that they would have over the system so they decided that it would be better to build their own system.

Peoria County is using a mixture of grant funding, earmarks, and public funds to accomplish this project.

Champaign County chose to build a Motorola Astro 800 MHz system that is fully Starcom compatible. Champaign chose to build their own system due to control issues with the Starcom system. This system is currently up and running and provides service to all Police and Fire agencies in Champaign County. Their system uses five tower sites throughout the County and was paid for by a mixture of grant funds, 911 funds, and public monies. Champaign had been in talks with Motorola to add their system as a "zone" to the Starcom system but the status of those talks is currently unknown.

Costs

In considering Starcom as an alternative to our current radio system we requested a proposal from Motorola that would detail our costs to purchase the necessary equipment for our officers and our dispatch center to migrate to the Starcom system. This proposal is detailed in attachment "A". The proposed price was quoted as $972,409.00. This would provide equipment for our vehicles, officers and dispatch center, and the labor and materials to implement the system. This cost could be reduced substantially by purchasing fewer radios for our vehicles, as it has been shown by other users that these may not be required. If this were done it could lower the cost by approximately $115,000.00. There would be ongoing costs which would consist of radio user fees and T1 line charges that are assessed on a monthly basis. The current subscription rate for municipal users is set at $30.00 per month for each radio on the system. If we held to our current projections this would give us an annual cost of $63,000 plus related fees for T-1 lines and dispatch consoles, this number could be lower depending upon the number of radios purchased.

Conclusion

As stated earlier this report is focused on the testing and analysis of Starcom21. A more detailed analysis evaluating other options could be completed examining building our own digital system or upgrading our current analog system. With current grant opportunities my recommendation is to move police operations to the Starcom system. This would immediately solve the problems of interoperability, and also allow for more channels for the Department to use. This would allow

operations to be split along functional lines when appropriate and allow for better communication during large scale events. This system is a proven system and our testing shows that it is functional in our area. The down side of this system is that there are continuing fees that are assessed each month for each radio and the system is not owned by the City so control of the system could become an issue. Another down side is a lack of tower locations. Should the tower located at ISU fail, we would have an immediate problem with our system as there is only one other tower in McLean County and that tower is located near Moraine View State Park. The up side of the system is that the responsibility for infra-structure maintenance would not be borne by the City but rather by the system owner, Motorola. Another added benefit would be that other City operations such as Public Works and Water could migrate over to the Police Department system which would save them the per-month fees they are currently paying and also allow the system to stay operational if the need should arise for the Police to return to this system in case of an extreme emergency.

Estimated Cost: $972,409

Funding Options

As with any project there are a variety of ways to fund the costs associated with the project. With this project these options could be:

1) Cash: the City could chose to appropriate the necessary money for the project as a part of its annual budgeting process. The project would only move forward as funds are budgeted.
2) Borrow: the City could chose to borrow the necessary money from an institution and pay these funds back over time as dictated by the lending agreement. The project could move forward and the funds would be paid back over time.
3) Grants: the City could seek grant funding to pay for all or a portion of the project. This would allow the city to obtain the system at a lower cost or no cost depending on any grants awarded. The project could only move forward as grant funds become available and are successfully awarded to the department. Currently there is money becoming available later this year. **The Illinois Criminal Justice Authority will be soliciting proposals in June of 2010, for projects that include the purchase and subscription to Starcom. Bloomington is ideally situated for this grant as we have performed the testing of the system and have solicited information for costs so that when this grant becomes available we can act quickly.**
4) Lease/Purchase: the City could chose to enter into a lease/purchase agreement with the vendor, which would allow the project to move forward and allow for the payment over time in accordance with a lease agreement.

Appendix "A"

City of Bloomington Police Department
STARCOM21 Budgetary
September 21, 2009

o **Gold Elite Upgrade**	**$353,226.00**
o **Police Department In-Building Enhancement (BDA)** (includes – BDA, Indoor Antennas, Cable, Taps, Splitters, Rack, Outdoor Antenna w/line & Polyphaser, And Labor)	**$ 45,690.00**
o **XTS2500 Model II Portable Radios w/Accessories** (includes – 135 Portables: Spare Battery, Leather Case,. Speaker Microphone & Desktop Rapid Rate Charger)	**$415,733.00**
o **XTS2500 Mobile Radio** (includes – 40 Mobiles)(could be significantly reduced)	**$132,610.00**
o **Radio Programming & Template Development**	**$ 16,150.00**
o **Mobile Radio Installation**	**$ 9,000.00**
Budgetary STARCOM21 Equipment Total	**$ 972,409.00**

Additional On Going Costs:

- **STARCOM21 User Fees - $30/Radio/Month**
- **Console T1 Costs**

The following documents have been included at the request
of
State Representative Dan Brady.

CITY OF BLOOMINGTON

David A. Hales, City Manager
109 E. Olive, P O Box 3157
Bloomington, Illinois 61702-3157

RECEIVED NOV 04 2009

October 30, 2009

The Honorable Daniel P. Brady
State Representative, 88th District
202 N Prospect
Suite 203
Bloomington, IL 61704

Dear Representative Brady,

Thank you for your assistance working between the City of Bloomington and the State of Illinois regarding the state's Starcom Radio System. The information about the possible grant is most helpful. The City staff will keep you informed if we apply and what the results are of our application.

If you learn any more regarding this issue please feel free to contact my office at (309) 434-2210.

Respectfully,

David A. Hales
City Manager

ILLINOIS HOUSE OF REPRESENTATIVES

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DANIEL P. BRADY

STATE REPRESENTATIVE · 88TH DISTRICT
ASSISTANT REPUBLICAN LEADER

October 14, 2009

Chief Randy McKinley
Bloomington Police Department
305 S. East Street
Bloomington, IL 61701-7609

Dear Chief McKinley:

As you are aware, I have worked to advance communication and assistance from the State of Illinois towards the City of Bloomington Police Department regarding the states Starcom Radio System.

Most recently, I was glad to be of assistance in organizing a meeting that was held on April 2, 2009 at the Bloomington Police Department, with local and state stake holders. It is my understanding that your department has completed testing Starcom Radios and continues to explore various avenues.

With respect to our recent phone conversations, I wanted to pass on information shared with me from Director Mike Charmness, of the Illinois Terrorism Task Force, regarding possible grant funding. The deadline for applying for this particular grant is December 1, 2009.

Should you like to learn more regarding this possible grant, please feel free to contact me or Director Charmness. I simply wanted to call it to your attention, in my role as State Representative, as I continue to advocate for the City of Bloomington on various issues.

Sincerely,

Daniel P. Brady
State Representative
88th District

cc: Mayor Steve Stockton
City Manager David Hales

ILLINOIS HOUSE OF REPRESENTATIVES

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DANIEL P. BRADY
STATE REPRESENTATIVE · 88TH DISTRICT
REPUBLICAN CONFERENCE CHAIRMAN

January 14, 2009

Interim Chief Randy McKinley
Bloomington Police Department
305 South East Street
Bloomington, Illinois 61701

Dear Randy,

As a matter of professional courtesy and open communication, I am advising you of two pieces of legislation that I have filed regarding the State's radio system, "Star COM 21", and its relation to the Bloomington Police Department.

During the fall of 2008 legislative veto session, I filed House Resolution 1628. This resolution was not called due to a quicker than anticipated veto session. However, this resolution has been re-filed as HR 7 of which I enclose a copy. In addition, I have also filed HB 46 of which I have enclosed a summary copy, which would create the First Responders Mobile Communications Transition Act. I would be most happy to visit with you regarding these proposed pieces of legislation should you like to learn more details.

Given the troubled radio communication history in my legislative district, I intend to move forward to enhance interoperable radio communications and I invite your input in crafting legislation that would be helpful to your department, strengthen the protection of the public, as well as the police, fire and EMS personnel that serve in the 88th legislative district.

Sincerely,

Daniel P. Brady
State Representative
88th District

enclosures

Cc: Mayor Steve Stockton
City Managers Tom Hamilton & David Hales

HOUSE RESOLUTION

WHEREAS, The Illinois Statewide Communications Interoperability Plan was officially approved by the U.S. Department of Homeland Security in the spring of 2008; and

WHEREAS, The plan sets forth a statewide communications strategy that focuses on establishing a mechanism for all public agencies to communicate emergency information during a local, regional, or State-wide disaster; and

WHEREAS, A key component of Illinois' interoperability strategy is Starcom 21, a State-wide interoperable voice radio system designed to provide radio communications, services, and interoperability to federal, State, county, and local public safety practitioners; and

WHEREAS, The system allows public safety and public service agencies throughout Illinois to effectively and cost-efficiently operate on a common network; and

WHEREAS, After the shootings on the Virginia Tech campus in April of 2007, more than 300 Starcom 21 radios were distributed to 70 college campuses around the State; and

WHEREAS, The Starcom 21 system played a vital role in

alerting first responders in the wake of the Northern Illinois University tragedy in February of 2008; and

WHEREAS, To date, the State has distributed more than 2,800 Starcom 21 radios to public safety agencies; and

WHEREAS, The Governor's Campus Security Task Force recommended that colleges and universities should make development and implementation of an interoperable communications system a priority of campus emergency planning; and

WHEREAS, The Task Force report specifically named the Starcom 21 system as a central means of implementing an interoperable communications mechanism for colleges and universities, as well as law enforcement and public safety agencies throughout Illinois; and

WHEREAS, The livelihood of all Illinois citizens could someday depend upon the synchronization of local, State, and federal emergency responders via a system like Starcom 21; therefore, be it

RESOLVED, BY THE HOUSE OF REPRESENTATIVES OF THE NINETY-FIFTH GENERAL ASSEMBLY OF THE STATE OF ILLINOIS, that we urge all State, local, and county officials, especially the

Bloomington police and fire departments, to adopt the Starcom 21 system of interoperable communications to ensure expedient communication and action in the event of a disaster; and be it further

RESOLVED, That suitable copies of this resolution be distributed to the Illinois State Police, the Illinois Association of Chiefs of Police, the Illinois Fraternal Order of Police, the Illinois Sheriffs Association, the Illinois Association of Fire Protection Districts, the Illinois Municipal League, the Illinois Institute of College and Universities, the Illinois Association of School Administrators, the Illinois Principals Association, and the Illinois Association of School Boards.

ILLINOIS HOUSE OF REPRESENTATIVES

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DANIEL P. BRADY

STATE REPRESENTATIVE · 88TH DISTRICT
REPUBLICAN CONFERENCE CHAIRMAN

July 10, 2008

Mayor Steve Stockton
City of Bloomington
109 East Olive Street
Bloomington, Illinois 61701

Dear Mayor Stockton: Steve

I am sure that you and I are joined by many who are relieved that the recent events at State Farm Corporate Headquarters on Thursday, July 3, 2008 turned out to be a "false alarm." While I wish to congratulate the City of Bloomington's response and all agencies involved, including State Farm Insurance, this continues to raise a concern that I have voiced to you on numerous occasions, both privately and publicly. My concern is the ongoing challenges of the City of Bloomington Police and Fire Departments to communicate on the Star Com 21 radio system.

As a member of the Illinois House of Representatives, Homeland Security & Emergency Preparedness Committee, I again pledge my efforts to assist in any way possible. My offer extends to you and/or members of the Bloomington City Council, to help resolve this issue.

I am hopeful this issue will be discussed at any de-briefing held by State Farm and the City of Bloomington Police Department. I also hope this most recent event will lead to a renewed discussion by your administration and the Bloomington City Council to explore the Star Com 21 radio system.

Thank you in advance for your concern for public safety. I would be most happy to discuss the matter further with you or your appointees.

Sincerely,

Dan

Daniel P. Brady
State Representative
88th District

cc: Hon. Allen Gibson
Hon. Kevin Huette
Hon. Jim Finnegan
Hon. Steven Purcell
Hon. John Hanson
Hon. Jim Fruin
Hon. David Sage
Hon. Judith Stearns
Hon. Karen Schmidt
Michael Claver
Michael A. Jones

2010 Fire Hydrant Operational Testing Program

A collaborative effort between the
City of Bloomington Fire and
Water Departments

Historical Context

- Operational testing or full functionality testing was not being performed, prior to 2007.
- Fire flow testing was completed on an “as-needed” basis, generally at the request of a sprinkler company designing a new sprinkler system for a nearby building (10+/- per year).
- Hydrants with operational problems were generally only identified when the Fire Department discovered a fire hydrant that would not work….*during an emergency*.

Historical Context (cont.)

- The Water Department recommended that certain types of hydrants were not to be used as they had a high rate of failure.
- Reported problems were often ignored.
- This led to a confidence problem with fire hydrants throughout the City… maybe they would work in an emergency and maybe they would not.
- A comprehensive approach would be needed to address the system-wide problem.

The Initial Steps – Summer/Fall 2007

- The Fire Department and Water Department initially met in 2006 to discuss the possibility of a joint testing program starting in the Summer/Fall of 2007.
- Logistics were worked out and the currently available fire hydrant maps were distributed to the Fire Department.
- It was agreed that a common software platform (Firehouse) already in use by the Fire Department would be used for the program.

The Initial Steps – Summer/Fall 2007 (cont.)

- The Fire Department would operationally test as many fire hydrants as they could in the Summer/Fall of 2007 and the Water Department would follow up with any noted problems.
- Operational testing by the Fire Department would involve a general visual inspection, removing all the nozzle caps and turning the hydrant on for a short period of time to determine the pressure and volume of water delivered.
- Although the inaugural Summer/Fall 2007 testing was completed by the Fire Department, the Water Department was simply overwhelmed by the sheer number of fire hydrants that were called out of service.

The Initial Steps – Summer/Fall 2007 (cont.)

- Throughout the year, hundreds of hydrants were called out of service using the traditional method of placing a large, orange “out of service” bag over the hydrant.
- Hundreds of additional hydrants were noted to have a variety of operational problems; not severe enough to warrant taking a hydrant out of service but still cause for concern.

The Initial Steps – Summer/Fall 2007 (cont.)

- Of additional concern was a common complaint that the hydrant maps were very inaccurate for the hydrants that were shown on the maps.
- Also, the Fire Department reported numerous fire hydrants were observed in the field but were not shown on any Water or Fire Department maps/records.
- The first year of testing ended with approximately 600 hydrants out of service. Approximately 550 hydrants had been serviced/repaired and 23 hydrants had been completely replaced.
- Operational readiness was estimated to be at 85%

Year one debriefing

- The program was successful in that it identified hydrants that were out of service.
- The program identified the need for an improved map.
- The program identified the need to add almost a decade of new growth in the City to the maps and records.
- It opened clear lines of communication between the two Departments.

Spring 2008 Program

- The goal in 2008 was to test every public fire hydrant in the system twice during the year.
- A map update was impossible to complete due to the focus on simply getting fire hydrants back in service.
- The program started in earnest around April 1, 2008.
- The Spring 2008 program started with numerous hydrants still out of service from the Summer/Fall 2007 program.

The Spring 2008 Program (cont.)

- Bagged hydrants (those still out of service from 2007) were skipped and simply noted as still out of service
- While the Water Department worked to bring hydrants back into service, numerous hydrants were deemed obsolete and would need to replaced in their entirety.
- Replacing a fire hydrant is a time consuming and expensive endeavor as compared to a traditional fire hydrant repair. It must be excavated an replaced. If the hydrant did not have an auxiliary valve, the water main would need to be shut down to allow for the replacement of the fire hydrant.
- Hydrant repair/replacement was handled on criticality basis, the critical hydrants (those around schools, hospitals nursing homes, etc.) were given the highest priority.

The Fall 2008 Program (cont.)

- The Water Department was returning fire hydrants to service as quickly as possible but with only a break of a few weeks between the Spring 2008 operational testing program and the start of the Fall 2008 phase, there was not enough time to return all hydrants to an operational state.
- The Fall 2008 phase was started with hundreds of fire hydrants still out of service.
- Throughout the Fall of 2008, the Fire Department had no choice but to use the inaccurate map and start testing the known hydrants again.

The Fall 2008 Program (cont.)

- Bagged hydrants (those still out of service) were once again skipped and simply noted as still out of service.
- “Out of service” criteria was tightened to reflect those truly inoperable hydrants. In other words, the hydrant could not be safely operated.
- The Fall 2008 program concluded quicker than the Spring phase as the Fire Department was more familiar with the locations of hydrants and numerous hydrants were skipped because they were out of service.
- As expected, additional hydrants were called out of service during this phase, adding to the total number of hydrants out of service.

The Fall 2008 Program (cont.)

- The Water Department continued to work on bringing critical hydrants back into service following the completion of the Fire Department testing in the Fall, but winter work in the Water Department is heavily weighted toward fixing water main breaks and service leaks thus hydrant maintenance was minimal in those months.
- The first full year of the program concluded with approximately 380 hydrants being serviced/repaired, 75 hydrants had been replaced leaving approximately 100 hydrants out of service at year end.
- Operational readiness was estimated to have improved to approximately 85%.

Year two debriefing

- The program was again successful in that it identified hydrants that were out of service but there were concerns over the sheer number of hydrants still out of service.
- The hydrant map would be updated as much as possible but the focus was on getting hydrants back in service.
- It was learned that the Insurance Service Office (ISO) would conduct its decadal inspection of the City of Bloomington water and fire systems in the spring of 2009.
- It was determined the fire hydrant operational testing would take place just once per year moving forward.
- It was agreed that due to the number of hydrants still “bagged” and out of service and due to their high visibility, that moving forward, out of service bags would no longer be used.
- New hydrants installed would be equipped with the high volume, quick connection Storz pumper nozzle. (See at the back of the Council chamber)

The 2009 Program

- The 2009 program started with a slightly improved map but once again the focus was on getting those hydrants that had been out of service for long periods of time back into service. The time to update the map was simply not available.
- The added emphasis was getting prepared for the ISO evaluation.

The 2009 Program (cont.)

- The ISO evaluation took place in March of 2009 after months of preparation and data collection for the Office. It would be months before the results would be known.
- The 2009 testing started in the Spring after the ISO evaluation and continued through the Fall of the year.
- 3,500 +/- hydrants were operationally tested during the year, 176 hydrants were maintained and 39 hydrants were replaced. At the end of the year, approximately 10 hydrants were out of service.
- Operational readiness had improved to approximately 99.5%.

The 2009 Program (cont.)

- It was learned in the fall of 2009 that the ISO evaluation resulted in the City improving its ISO rating from a 4 to a 3.

Year three (2009) debriefing

- A major effort would be made to upgrade the map to address the previous concerns.
- A major effort would be made to bring hydrants back into service in early 2010, as workload would allow.

The 2010 Program

- The fire hydrant map has been extensively upgraded.
- 15% of the fire hydrants in the system have been mapped using Global Positioning System (GPS) technology.
- Approximately 10% of the fire hydrants in the system have been tagged with an individual own metal tag for easy identification in the field.
- The number of fire hydrants in the system has increased to over 4,500, not all from growth from 2009 to 2010 but due to the extensive work on the map to count and address previously undocumented fire hydrants.

The 2010 Program (cont.)

- Since January 1, 2010, over 30 fire hydrants have been replaced in the system.
- Since January 1, 2010, over 190 fire hydrants have been serviced in the system.
- As of May 10, 2010, there are only 10 fire hydrants out of service (of a total count of 4,000 fire hydrants), leading to a 99.5% “operationally-in-service” figure.
- Hydrants called out of service in 2010 will once again be bagged.
- A 7 calendar day “return-to-service” goal has been set by the Water Department and will be closely tracked during this years testing program.
- 100% of the public fire hydrants will be the standard safety yellow color by the end of the year.

Successes

- An improved ISO rating.
- Confidence in the fire hydrants throughout the City.
- A highly successful, cooperative program between the Fire and Water Departments.
- Better fire protection for the citizens of Bloomington.
- Better mapping.
- GPS locations for fire hydrants.
- Hydrant tagging.