MICHIGAN'S PUBLIC SAFETY COMMUNICATIONS SYSTEM

Volume 2, Issue 5

October 2010

# MPSCS NEWSLETTER

**Inside this issue:**


| | |
|---|---|
| **Washtenaw** | **1** |
| **Rebanding Update** | **2** |
| **Oil Spill** | **2** |
| **Queries** | **2** |
| **Genesis** | **3** |
| **Energy Efficiency** | **3** |
| **Usage Stats** | **4** |


Training

Contact: Chris Moore

(517) 336-6126

- October 19-20

(Negaunee)

- November 9-10

( MSP Training Academy)

**QUICK STATS**

- Total Radios: 51,055
- Total radios added in July and August: 1,511

**FUN FACT**

- In 1929, the Michigan State Police established the first state police radio system in the world

## Washtenaw County: A New Addition to the MPSCS

In May of 2006, voters in Washtenaw County approved a millage of 2.2 mils to enhance public safety communications. The group that was pushing the initiative debated among several options (such as a stand-alone system) and decided that the MPSCS was the best option for improving their public safety communications.

The digital system was a system that had proven itself and neighboring counties were already using the digital radio system. Washtenaw County had previously been working with Motorola for over twenty years and knew they were dealing with a quality product.

Craig Swenson, Project Manager for the Washtenaw County MPSCS Implementation, states that with local resources and the support of the MPSCS during the transition, the consultants had little work to do. In fact, they haven't had to use the services of a consultant in nearly two years. The MPSCS has also been able to reduce costs for the county. "MPSCS was very helpful going into the transition," says Swenson.

*This image shows the new towers in Washtenaw County. A total of seven towers were added or updated for the project.*

Washtenaw County is using a total of seven sites, one of which is an MPSCS site. Four towers will be built from the ground and two existing towers will be used; one from the city of Ann Arbor and the other from the Eastern Michigan University campus. The site acquisition was a lengthy and tedious process that temporarily impeded the project. As soon as the sites were secured the project began moving smoothly.

The rolling cutover transition began in August and is still currently taking place. The Huron Valley Ambulance, EMS service, survival and medical flights, and hospitals in the county were the first to switch over to the MPSCS. The fire services are the next to be cut over followed by the police agencies that will complete the transition. Joe Krenke, MPSCS's Northville radio shop supervisor, states that users are "already giving glowing reports of their mobile and portable coverage."

Swenson believes that the transition has gone smoothly and easily due in part to the MPSCS. "For those of us involved, the MPSCS has been spectacular in how they have supported us with this implementation. The way they have worked as a team with us and in addition to Motorola's support has served the citizens of Washtenaw County well."

The completion of the Washtenaw simulcast subsystem is expected to end by late October.

## System Upgrade Status

Our continued goal to improve service requires us to upgrade the MPSCS infrastructure. As technology rapidly progresses so must we to maintain the quality of service you expect from the premier public safety radio system.

Significant benefits to this upgrade include: a hardening of network connectivity through improvements in routers, switches, etc., and an increase in the capability of supporting up to 128,000 system ids.

Several steps compose the overall upgrade from the release 6.9 system to the release 7.9 system. Major electronic components are being replaced at all 7 Zone master sites and 198 remote sites. The WAN (Wide Area Network) switch found in each zone master site is obsolete and boards and parts are becoming difficult to obtain. The 14 zone controllers will be replaced with new models and routers are being replaced with more powerful routers. The release 7.9 upgrade will also provide better options for use of 700 MHz channels in areas of frequency congestion.

Approximately 16 months later, release 7.11 will replace the 7.9 release. The release 7.11 provides an encrypted network connectivity, an increase in zone capacity from seven to fifty-six zones and the MPSCS championed Project 25 standard of emergency alerts at non-valid sites.

Work continues developing the standards for multi-system interzone connectivity which would enable the MPSCS to communicate with other surrounding system sites at a system level

As in the past, the MPSCS uses a well-planned cutover schedule that will minimize service interference. The NCC will distribute outage notifications during the system upgrade.

For more information on new software being implemented as part of the 7.9 upgrade, please see the Genesis article on page 3.

## Rebanding: 800 MHz Newsletter Update

For nearly two years MPSCS and its consultants have worked together to produce a plan by which the Michigan Public Safety Communications System could be rebanded from its present set of frequencies to the new ones mandated by the Federal Communications Commission (FCC). This has been a substantial undertaking as might be imagined. The MPSCS interoperable radio system, that provides coverage for the entire state, is very complex and highly interdependent. It is the largest interoperable system in the US.

The three-phase Rebanding Plan has been submitted to Sprint for review; the Back-to-Back installation in January, 2010, followed by the plan for the Subscriber Radio and Tower Antenna Rebanding aspects in April. Negotiations that will lead to a Frequency Reconfiguration Agreement (FRA) began in February and continue to this date.

The MPSCS Project Team actively negotiates with Sprint using weekly conference calls to respond as issues, options and solutions are identified for the myriad details that are encompassed in a plan of this magnitude. Issue specific work sessions take place in between the scheduled conferences.

While target dates remain very tentative at this time, MPSCS is hopeful that a FRA can be negotiated before the end of 2010. The expectation is that this would enable the mobilization and initiation of the installation of the Back-to-Back Mutual Aid system at the onset of 2011. Simultaneously, negotiations are continuing to iron out the details of implementing the remaining phases of the rebanding plan. The process to reband the 54,000+ subscriber radios would follow immediately upon the completion of the Back-to-Back installation.

The planning of this enormous undertaking has involved organizing and coordinating a substantial number of stakeholders as well as the consultants that have provided the expertise to plan this project. While the planning has taken longer than one would have expected, progress continues to be made. MPSCS will continue to provide updates on that progress over the coming months.

*Updates will appear in each future issue of this Newsletter. However, detailed project information, upcoming events, and up-to-date progress reports can be found on the Rebanding Project's website: http://www.rccpm.com/MI800MHz/default.aspx*

## PMDC Status

The MPSCS uses Motorola's Premier Mobile Data Computing (PMDC) product for its mobile data solution, it functions across the MPSCS Integrated Voice and Data (IV&D) network. Currently the MPSCS is working on integrating the PMDC solution with Motorola's CAD (Computer Aided Dispatch) solution. We are also working to provide the functionality of these products so they will work on both the IV&D network and also cellular carriers. An automatic resource locator is also being integrated to provide a means to locate mobiles and portables.

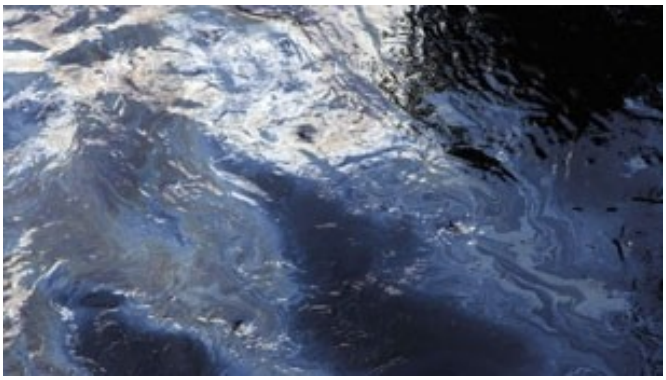
Thirty-five MSP posts have added new Mobile Data Terminals since the beginning of the year, combined with twelve local departments in Van Buren County that were part of the pilot, for a total of forty-seven state and local agencies. The original pilot included 67 IV&D capable radios, with a year to date total of 327 IV&D capable radios.

Number of LEIN Inquiries

| | |
|---|---|
| May | 27525 |
| June | 25716 |
| July | 27795 |
| Total | 81036 |

## Oil Spill and the MPSCS Response

Early Monday on July 26th an environmental disaster occurred in the city of Marshall in Calhoun County. A leak in a pipeline caused an oil spill which some news sources are reporting as being "among the largest in Midwest history." As a response to this devastation, which has received national attention, the MPSCS has provided its radio services to aid in the communication of first responders and clean up efforts alike.



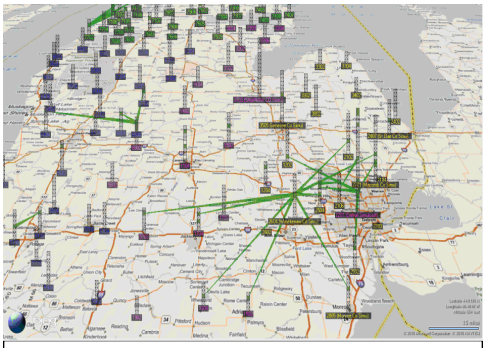
A state of emergency was declared as over 800,000 gallons of oil dispersed from the site of the leak in the Tallmadge Creek into the Kalamazoo River near the city of Battle Creek. The leak was caused by a 5-foot tear in the 30 inch pipeline owned by Enbridge Liquids. According to Brian Whitsett, the 6th district MSP Emergency Coordinator, MPSCS 800MHz radios were requested as a resource by the EPA in order to "ensure the safety of the citizens and emergency response workers along the area impacted by the Enbridge Kalamazoo River oil spill." The radios are currently being used by a number of federal, state, local, and private response units. Some of the extensive list of responders operating on the system include: U.S. EPA, U.S Fish & Wildlife, Michigan DNRE, MSP emergency management, as well as emergency management, sheriff's offices, and public health administrators from Calhoun County, Kalamazoo County, and the City of Battle Creek. The U.S. EPA commented on the quality of communication the 800 MHZ radios have offered during the cleanup by stating that they have been utilized to "provide a common operating picture during the incident in order to help ensure consistency for all emergency management/response personnel engaged in the response and communications interoperability which allows key decision makers to communicate within and across agencies and jurisdictions."

In order to accommodate all parties involved, seven special event talk groups were requested to be set up through the MPSCS Network Communications Center (NCC), three of which are expected to remain in use until mid November. From the start of the spill until Sunday September 20th a total of 8,342 radio calls have taken place. Even though most of the calls made have been generated from areas near the spill, such as Calhoun County with 6,779 PTT's, Kalamazoo County with 198 PTT's, and Barry County with 133 PTT's, a few system busies were observed but no significant problems were reported. Along with maintaining communication in the confined area of the state, interoperability has made it possible for users to have access to expanded communication with 25 other counties throughout Michigan. Responders from outside the affected area used MPSCS radios to communicate back to their home bases. Fire Chief William Nelson from Oakland County, who lead the Hazmat unit that responded to the spill, said that the 800 MHz radios were "valuable in communicating back and forth, literally from Marshall to Oakland."

While cleanup from the spill is still underway, much improvement has been made due to the hard work of response teams across the state. As progress continues, the MPSCS will continue to provide smooth and unrestricted communication as an important component in this disaster relief effort.

## System Upgrade: Genesis Goes Live

Genesis has gone live and been put into use as part of the 7.9 system upgrade currently taking place. Genesis performs a variety of tasks that enables MPSCS to collect and analyze system statistics. Statistics range from how many radios are currently in use, how many calls are currently being made, and how busy a site is. The NCC can use the program to better monitor traffic and performance on each site, and zone to zone traffic. The 7.9 upgrade is scheduled to be finished in May of 2011, with the 7.11 upgrade following.



*This is a graphic that shows how many calls are being made at any given moment in time. Genesis software offers several other graphics in addition to those shown to monitor usage.*

This addition of the Genesis software and hardware alone was a minor piece of the upgrade on a larger scale, but the program is proving to be extremely useful. Genesis provides tools that enable the user to look at details in real time and any other point in time that has been stored within the system. This management tool is used to better manage and monitor system performance.

Previous methods of collecting data were very limited and time sensitive. It could take upwards of eight hours to compile a report. Now with a few clicks and keystrokes a report that used to take an entire work day to compile can be created within a matter of minutes. Extremely detailed data could previously only be held for one day—and after one day the granularity of such detailed reports would begin to diminish. Reports on the previous system were rough and needed manipulation before they were usable. The Genesis system is capable of saving the smallest and most intricate pieces of data for up to three years or as much as storage is capable of holding. Upon reaching the three year landmark it is most likely that additional storage will have been added and the system can continue to store the detailed data.

## New Bulletin #2010-03: *User Radios*

**MPSCS does not have a policy nor are we intending to initiate a policy to inhibit radios if they had not been used for any period of time.**

We do support that all radios should be tested on an appropriate basis to verify their operation, and if the Member detects possible MPSCS network infrastructure malfunctions, the Member should first contact its Service Provider for an evaluation of the problem. If the Service Provider determines the problem does not originate from the Member's Radios, equipment installation or maintenance, the Member should notify the NCC. The NCC will investigate and take appropriate corrective action to network infrastructure malfunction, and report the corrective action to the Member.

**For more information or to see the complete bulletin please visit:**

http://www.michigan.gov/documents/mpscs/MPSCS_B2010_03_332503_7.pdf

## Energy Efficiency of the MPSCS: LED Lights

Darren Robinson, a steeplejack who does tower and site inspections for the MPSCS, had been searching for a cost efficient ways to save time and money in his line of work. One solution he discovered came in the form of LED lights.

Currently, the FAA (Federal Aviation Administration) requires that each radio tower exceeding 200 feet be equipped with lights in order to signal air traffic of the tower's presence. Thinking about this fact, Robinson saw an opportunity to modify this equipment to be environmentally sound. As a result, a plan has been submitted by Robinson and approved by MPSCS management to replace all incandescent lights installed on the towers with energy-saving LED (light emitting diode) bulbs. When asked about why he pressed for the lights to be switched and what he thought the advantages would be Robinson said, "It is important for us as State of Michigan employees, citizens of the United States, and people of this world to look around at where a difference can be made to reduce waste which will lead to saving money and improving our environment. When this can be accomplished at the same time it is a win-win situation."

The environmental and economical benefits of completing this project are expected to be numerous. Although LED technology is not new, more recent developments have made it possible to increase the lumens of these lights and also lower operating and maintenance costs. LED lights are solid and do not contain a filament, therefore are more durable and last much longer than incandescent bulbs. Each one requires 95% less energy to operate than the old bulbs. Where the existing lights are replaced every year, the new LED bulbs have a lifespan of about 10 years since they will only be kept on at night. This alone will reduce the amount of waste produced by hundreds of bulbs being disposed of every year as well as the time and cost of labor needed to replace them.

With a total of 975 bulbs currently outfitting the towers, the energy, time, and cost savings will quickly surpass the expenditure for the new LED bulbs. Robinson adds that, "The initial cost is well worth the savings to be had through the years to come. With [the project] paying for itself in just over a year, then with an annual savings of over $55,000 this is not just a band-aid to get the State of Michigan through these rough times. This is digging in and making smart choices that will be part of the foundation of the future of the State of Michigan." Including expenses for labor, electricity bills, and purchasing new product to replace bulbs, a single LED light will save $55.59 in one year. Over a ten year period the savings for all of the lights will add up to $556,649. Consumers Energy as well as other power companies have been rewarding clients for investing in more environmentally friendly LED lights. Consumers has approved a $38.30 refund per bulb to the MPSCS to go toward the purchase.

Starting with this first task of obtaining and installing LED lights on their radio towers, the MPSCS is moving in a direction that will have a positive impact on both the environment and budget. According to Robinson the goal for the MPSCS is to "continue to work at making the tower sites as efficient as possible in hopes of making them good candidates of being powered by renewable energy." The request for the new bulbs has already been approved in this year's budget. The simple installation will occur during the annual inspection of each tower and the entire project should be complete in roughly a year after the bulbs are acquired.

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Comments or suggestions are appreciated!

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## Usage Statistics

| 2010 | Total Calls | PTTs | PTT Change From 2009 |
|---|---|---|---|
| **June** | 5,106,264 | 9,169,473 | +720,877 |
| **July** | 5,375,974 | 9,680,777 | +943,317 |
| **Aug** | 5,267,367 | 9,435.852 | +783,808 |

**Michigan's Public Safety Communications System**

*Providing statewide radio communication for public safety and state government agencies*

*The MPSCS Newsletter strives to provide users with information to better utilize the system through understanding and instruction, to find funding sources for communication programs, and to inform users of news and events in both the communication technology world, and Michigan's public safety sector.*

## Special Thanks

Thank you to everyone who has helped make this newsletter a success: Mark Sandberg, David Hayhurst, Dick Baker, Joe Krenke, Craig Swenson, Jerry Nummer, Bill Nelson, and Darren Robinson.

## Want additional information?

Email: mpscs@michigan.gov

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## Keep Your Eyes Open for UPCOMING ISSUES of the *MPSCS Newsletter*:

- System Upgrade Updates
- Rebanding Updates
- Site on Wheels
- New Tower Integration Updates
- ...and more!