



MPSCS Newsletter

January 2011

MPSCS Site On Wheels

IN THIS ISSUE:

Site on Wheels.....1

Rebanding Update....2

Narrowbanding.....3

**Windstorm
Aftermath.....4**

Quick Stats

**Total Radios: 55,333
Talkgroups: 5,105**

Fun Fact:

**Radio waves travel at
186,000 mph--So no
matter how fast your car
or motorcycle is, it can't
outrun a police officer's
radio transmissions.**

MPSCS has a portable radio site, known as the Site on Wheels (SOW), that is utilized in cases of emergency and where expanded coverage is required. The site was acquired in the summer of 2009 through grant funding and was ready to use upon purchase from Motorola. The MPSCS added additional supplies such as site tools, storage containers, extra cables and GPS.

The site consists of two trailers. The main trailer has a majority of the end user equipment including a six channel trunked MPSCS site. Using point-to-point (PTP) microwave links, the SOW trunked site equipment can be linked back into the MPSCS and act as a fully functional wide area site.

The main trailer also includes Mesh networking equipment. Mesh networks are wireless networks similar to wifi but are able to relay data between wireless devices to connect back to the network. If one device is out-of-range of the network equipment at the SOW and another device is within range, the device in range can relay data to the other out-of-range device.

The main trailer also contains an MPSCS console site with a dispatch console that can be tied into the system. Once a connection is established between the system and SOW dispatch site, the console can be loaded with whichever talk groups are needed.

Another additional feature is the

Motobridge patching box. This serves the purpose of acting as a patching gateway that will connect two radios together that operate on different systems. For example, if a user is present that is operating on VHF and needs to communicate to MPSCS users, the Motobridge can connect a radio from each system together allowing communications between the two systems.

A second trailer was purchased through the grant and can be used as a point-to-point relay point between a MPSCS tower and the portable SOW site if there is too great of distance between the two towers. It can be utilized if the main SOW trailer cannot make a direct connection to a tower due to obstructions such as natural landscaping and buildings.

One of the primary goals in purchasing the SOW was to have

equipment that allowed for flexibility to provide on scene communications in a variety of scenarios. These scenarios range from planned events to unplanned emergencies and from increased MPSCS coverage to on scene data hotspots.

In September, a mock scenario was successfully conducted. The event was used to test the equipment, modify deployment procedures, and train personnel. While the processes will continue to be improved upon, the mock deployment showed that the Site On Wheels is ready to be deployed if needed.



The MPSCS Site On Wheels main trailer.

Rebanding Update

Negotiations by MPSCS with Sprint continued into December. The effort is focused on reaching an agreement on the procedures to be used to modify the Mutual Aid (MA) system to provide seamless Back-to-Back (B2B) service during the period that the subscriber radios are to be rebanded. The negotiations utilize twice-a-week discussions using a multi-party phone bridge enabling all of the project team members to participate. Additionally, a one-and-a-half day on-site conference was held in early December at the Motorola facility in Farmington Hills. Present with MPSCS were the project team members (Motorola, RCC, Project Managers LLC and our legal counsel Elizabeth Sachs) to meet with the Sprint negotiation team and the Transition Administration's (TA)

mediator from Washington DC.

Substantial progress was achieved with general agreement on the bulk of the outstanding issues. MPSCS's critical concerns for maintaining present high levels of service during the modifications were successfully addressed. Agreement was achieved on the testing procedures to be used to assure that service levels are identical post-rebanding to those presently provided.

A target date of Jan 15, 2011 has been set to have resolved all other outstanding procedural issues as well as funding levels. The B2B effort would then be formalized with a draft Frequency Reconfigure Agreement (FRA) to incorporate these agreements. Approvals by the TA and Sprint would then take four to six weeks. Optimistically, a FRA

would be in-place by mid-March. The on-ground B2B installation effort would then commence.

The B2B system is critical to the implementation effort. Once it is in place, MPSCS subscriber radios will be able to communicate on either the old Mutual Aid (MA) channels or the new MA rebanded channels. As the project moves into the actual rebanding of radios, there will be no loss of emergency access to MA channels regardless if an individual radio has been rebanded or not.

MPSCS will continue to provide updates as project planning nears completion and actual implementation begins with Phase #1 installation of the B2B repeater antenna system.

Tall Wind Power

MPSCS has created a partnership with the Michigan Department of Energy, Labor and Economic Growth (DELEG) and also Michigan State University to study the effects of wind power at a new level. The project is referred to as Tall Tower Wind and Energy Monitoring and is expected to produce valuable data for all parties involved.

The funding for this project was given by the American Recovery and Reinvestment Act of 2009. A grant in the amount of \$83,806 was awarded to the DELEG in order to install monitoring equipment and collaborate with MSU's College of Agriculture and Natural Resources for research purposes. MPSCS towers were specifically chosen to have anemometers installed. Monitoring can be accomplished on the tallest towers at a level of 200 feet where wind power is much stronger. In the past, data has only been collected at levels of about 70-100 feet. MPSCS staff and field techs agreed to aid in the installation of monitoring equipment during the routine maintenance of tower sites.

The first installation took place in April 2009 with a prototype system at

site number 5404 in Berrien County. Since then eight more sites have had equipment installed spanning across the state including site 1402 in Gratiot, 8407 in Delta, 7901 in Antrim, 6604 in Mason, 1902 in Hillsdale, 5502 in Allegan, 7207 in Alpena, and 9302 in Chippewa. Every two weeks data is collected and transferred through cellular devices and the internet to computers which generate reports involving monthly wind average tables, wind speed graphs, and temperature graphs. As expected, the wind speeds are proving to be significantly more powerful at higher levels. For example, in the Upper Peninsula average wind speeds at 120 meters were measured to be 12.4 mph compared to 10.1 mph at 60 meters. This information is important because wind power is equal to the cube of wind speed and utilizing this power source could potentially create more efficient energy.

By serving as a catalyst for this research, MPSCS, DELEG, and MSU are supporting Public Act 295 (Clean Renewable and Efficient Energy Act) which was passed in 2008, calling for more investment into the planning of transitioning to renewable

energy and away from nonrenewable resources. The objectives of this project comply with this act in hopes of encouraging development of wind energy in Michigan, stimulating jobs in this field and reducing reliance on imported energy. The MPSCS will also be able to use some of the research to gather beneficial information of its own. New information about wind speeds at high levels may be able to help determine climate conditions and its effect on existing tower equipment. Buzz Leach, co-location manager for MPSCS confirms, "This project supports State of Michigan 'Green Initiatives,' as well as enhances our ability to select infrastructure components on MPSCS towers."

Thus far, data collection has been successful and planners intend to expand the project and another tower site for the installation of equipment. Researchers are currently using the data already collected and making various comparisons to previously gathered wind energy studies. Funding and research for the Tall Tower Wind and Energy Monitoring Project will continue through June of 2011.

Narrowbanding Deadline

The Federal Communications Commission is making the radio spectrum more efficient by “splitting” the UHF and VHF radio bands, allowing for more capacity in the same amount of space. Being prompted by increased voice and data demand, the current users are being moved onto smaller sections of bandwidth.

A simple way to understand narrowbanding is to realize three frequencies currently exist and upon completion five will exist. All VHF channels will be spaced 7.5 KHz apart, and UHF will be spaced 12.5 KHz apart. Today, they are spaced at 15 KHz and 25 KHz, respectively.

The final deadline for all public safety radio systems to be narrowband compliant is January 1, 2013. That may be two years away, but if your agency has not started evaluating its radios and equipment, you’re running behind already.

RECOMMENDED STEPS:

1. Make sure your agency has a valid FCC Part 90 radio license.
2. Complete a full inventory of all radios in your agency and their capabilities.
3. Possibly use this time to upgrade your system to a digital VHF or 800 MHz system.
4. Identify which radios will need to be reprogrammed or replaced.
5. BUDGET! Chances are, much of your equipment will need changing, and there are only so many opportunities to secure funding and obtain the necessary items before the deadline. Also, grant funding is not available for this mandate.
6. Plan how you will change your infrastructure to accommodate the replacements.
7. Modify the license if need be.

Officials at MPSCS are available to help answer any questions your agency may have. For those of you solely utilizing the MPSCS 800 MHz digital trunked system for your communication needs, you should not need to alter your equipment. However, all agencies that utilize some VHF/UHF equipment will need to take action to ensure your agency stays on-line after the switch.

DATES TO REMEMBER:

December 31, 2010:

- The last day to manufacture or import non-narrowband compliant equipment.
- The last day the FCC will accept applications to extend current uses, or begin using, wideband frequencies.

January 1, 2013.

- The narrowband migration deadline.

FCC to Hold Narrowbanding Workshop

The FCC’s Public Safety and Homeland Security Bureau announced it will hold a workshop on VHF/UHF narrowbanding to assist licensees in completing the transition to narrowband radio communications on Wednesday, Jan. 26, 2011, from 1:00 – 4:30 p.m.

The workshop will provide public safety and industrial/business licensees with information regarding the narrowbanding transition path, and will include input from federal agencies, equipment manufacturers and public-safety organizations to help ensure timely compliance with the deadline. The

FCC will release a complete agenda closer to the event date.

The workshop will be open to the public. However, admittance will be limited to the seating available. Individuals interested in attending the event must pre-register online at www.fcc.gov/pshs/event-registration.html. Interested attendees may also contact Deandra Wilson at 202-418-0703 or deandra.wilson@fcc.gov. The deadline for pre-registration is Monday, Jan. 24, 2011.

Audio/video coverage of the meeting will be broadcast live with open captioning over the Internet from the FCC’s website at www.fcc.gov/live. The FCC’s webcast is free to the public, and those watching may e-mail event-related questions. Depending on the volume of questions and time constraints, the

panel moderators will work to respond to as many questions as possible during the workshop.

Jan. 1, 2013 is the deadline for all VHF and UHF public safety and industrial/business LMR systems in the 150 – 174 and 421 – 512 MHz bands to migrate from 25 kilohertz channel bandwidth to 12.5 kilohertz or narrower technology. Timely completion of narrowbanding will ensure more efficient use of spectrum, relieve congestion and result in increased channel availability for LMR systems, an FCC statement said. More information on narrowbanding can be found at the FCC’s website, www.fcc.gov/narrowbanding.

MICHIGAN PUBLIC SAFETY COMMUNICATIONS SYSTEM

For any questions or concerns please contact
Publications Specialists:

Chelsea Wuth: raus-wuthc@michigan.gov
or
Kaitlyn Canary: canaryc@michigan.gov

Want additional information?

Rebanding:

Dick Baker
bakerr4@michigan.gov

Site On Wheels:

Pat Kenealy
kenealyp@michigan.gov

Tall Wind Power:

Buzz Leach
leachg@michigan.gov

Windstorm Response

Starting Tuesday, October 26th, a major wind storm swept through Michigan. Winds close to sixty miles per hour caused the loss of utility power at 101 remote tower sites and required the on-site emergency generator to power the site as required over a four day period. Some generators remained in use through October 30th and as many as forty-five were active at one time. The last record for the most generators used as the result of a storm was documented in 2003 during another wind storm where forty-two remote site generators ran and provided uninterrupted power to the sites during utility power failures.

During this most recent wind storm, all sites remained completely operational and no failures were reported. If a site's generator ran for more than twenty-four hours, an MPSCS technical staff member was dispatched to check the oil, coolant and fuel levels to ensure the continued proper operation of this critical power source.

Generators are automatically tested each week. The Network Communications Center (NCC) creates a report showing the times each generator ran, the time the site operated on the generator, and the proper shutdown of the generator. The reports are reviewed by the NCC staff, distributed to the Site Maintenance personnel and ultimately approved by the NCC manager. Anomalies are noted and repairs made as needed to ensure that all generators and tower equipment are capable in the face of any unexpected event.

These weekly tests ensure the MPSCS sites will function without setbacks during utility power failures.

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

Rebanding Update

Mobile Command Vehicle

System Upgrade Status

Usage Statistics

2010	Total Calls	PTTs	PTT Change From 2009
Sept	4,905,848	8,740,207	+322,323
Oct	4,884,397	8,721,412	+1,118,644
Nov	4,417,359	7,811,211	-87,172
Dec	4,515,803	8,071,586	+103,203