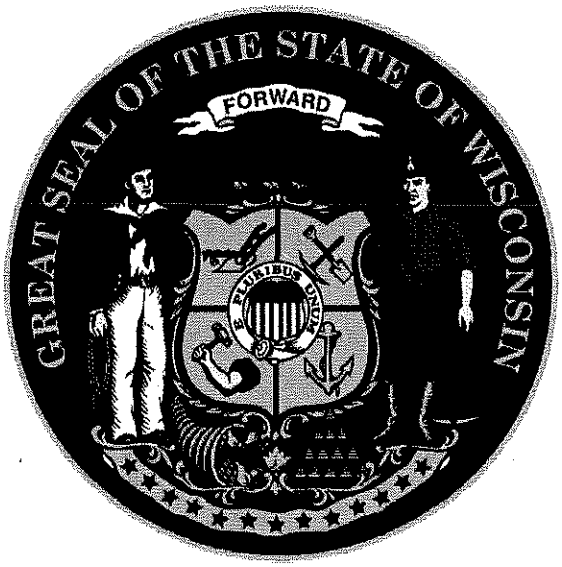
Report to the Joint Committee on Finance

on Wisconsin Interoperable System for Communications (WISCOM) as directed in:

2015 Wisconsin Act 55



State of Wisconsin

TABLE OF CONTENTS

GLOSSARY OF TERMS 4

EXECUTIVE SUMMARY 6

STATEMENT 1 7

A STATEMENT OF THE TOTAL AMOUNT OF MONEY THE STATE HAS EXPENDED OR ANTICIPATES EXPENDING TO DEVELOP, CONSTRUCT, AND OPERATE THE SYSTEM FROM ITS INCEPTION TO FISCAL YEAR 2015-16. THE COUNCIL SHALL IDENTIFY IN THE REPORT THE AMOUNTS THAT HAVE BEEN EXPENDED FROM GENERAL PURPOSE REVENUES, PROGRAM REVENUES, FEDERAL REVENUES, AND SEGREGATED REVENUES. FOR EACH AMOUNT EXPENDED FROM PROGRAM REVENUES, FEDERAL REVENUES, OR SEGREGATED REVENUES, THE COUNCIL SHALL IDENTIFY IN THE REPORT THE REVENUE SOURCE FOR EACH EXPENDITURE. 7

STATEMENT 2 8

A STATEMENT OF THE ANNUAL OPERATING BUDGET FOR THE SYSTEM FOR FISCAL YEAR 2015-16, IDENTIFYING THE COSTS RELATED TO STAFF, INFRASTRUCTURE EXPANSION, INFRASTRUCTURE MAINTENANCE, SUPPLIES AND SERVICES, AND OTHER COSTS RELATED TO THE SYSTEM. 8

STATEMENT 3 9

AN IDENTIFICATION OF THE LOCAL, STATE, AND FEDERAL AGENCIES THAT UTILIZE THE SYSTEM. FOR EACH AGENCY, THE COUNCIL SHALL INDICATE IN THE REPORT HOW FREQUENTLY THE AGENCY UTILIZES THE SYSTEM AND HOW EACH AGENCY UTILIZES THE SYSTEM TO SUPPORT THE AGENCY'S OPERATIONS. 9

STATEMENT 4 10

AN IDENTIFICATION OF ANY AGENCY IN THE STATE THAT UTILIZES AN ALTERNATIVE COMMUNICATIONS SYSTEM FOR ITS EMERGENCY RESPONDERS. FOR EACH AGENCY THAT UTILIZES AN ALTERNATIVE COMMUNICATIONS SYSTEM, THE COUNCIL SHALL EXPLAIN IN THE REPORT WHY THE AGENCY UTILIZES AN ALTERNATIVE COMMUNICATIONS SYSTEM AND SHALL SET FORTH ANY BENEFITS THE ALTERNATIVE COMMUNICATIONS SYSTEM PROVIDES TO THE AGENCY. 10

STATEMENT 5 11

AN IDENTIFICATION OF EACH LOCAL, STATE, AND FEDERAL AGENCY THAT IS A DAILY USER OF THE SYSTEM. 11

STATEMENT 6 11

AN IDENTIFICATION OF EACH LOCAL, STATE, AND FEDERAL AGENCY THAT IS NOT A DAILY USER OF THE SYSTEM BUT MAY BECOME A DAILY USER IN THE FUTURE. FOR EACH AGENCY IDENTIFIED, THE COUNCIL SHALL INDICATE IN THE REPORT WHEN ITS STATUS AS A DAILY USER IS ANTICIPATED. 11

STATEMENT 7 12

AN EXPLANATION OF THE CURRENT STATUS OF THE SYSTEM'S INFRASTRUCTURE AND AN INDICATION OF WHETHER, AND HOW, THE SYSTEM'S INFRASTRUCTURE MAY BE EXPANDED IN THE FUTURE. 12

STATEMENT 8 15

A STATEMENT OF WHETHER OTHER MIDWESTERN STATES HAVE DEVELOPED STATEWIDE INTEROPERABLE SYSTEMS FOR COMMUNICATIONS AND WHETHER THE SYSTEM HAS BEEN DEVELOPED IN A MANNER SIMILAR TO THOSE FOUND IN THE OTHER STATES. IF THE SYSTEM HAS NOT BEEN DEVELOPED IN A SIMILAR MANNER, THE COUNCIL SHALL EXPLAIN IN THE REPORT WHY. 15

STATEMENT 9 18

A STATEMENT OF THE SUCCESSES THE SYSTEM HAS HAD IN PROVIDING EFFECTIVE COMMUNICATIONS AMONG LOCAL, STATE, AND FEDERAL PUBLIC AGENCIES. 18

STATEMENT 10 19

A STATEMENT OF ANY CHALLENGES THE SYSTEM HAS FACED IN PROVIDING EFFECTIVE COMMUNICATIONS AMONG LOCAL, STATE, AND FEDERAL PUBLIC AGENCIES AND HOW THE CHALLENGES COULD BE ADDRESSED. 19

STATEMENT 11 20

AN EXPLANATION OF TO WHAT EXTENT THE SYSTEM IS COMPATIBLE WITH OTHER EMERGENCY RESPONSE COMMUNICATION NETWORKS UTILIZED BY LOCAL AGENCIES AND AN INDICATION OF WHETHER THE SYSTEM'S VERY HIGH FREQUENCY CHANNELS OR SITES HAVE INTERFERED WITH A CHANNEL OR SITE UTILIZED BY A LOCAL EMERGENCY RESPONDER. FOR EACH INCIDENT OF INTERFERENCE, THE COUNCIL SHALL INDICATE IN THE REPORT WHY THE INCIDENT OCCURRED AND WHAT HAS OR WILL BE DONE TO ADDRESS THE PROBLEM OF INTERFERENCE. 20

STATEMENT 12 21

A STATEMENT OF THE NUMBER OF SITES, CHANNELS, AND USERS THE SYSTEM CURRENTLY SUPPORTS, THE MAXIMUM NUMBER OF SITES, CHANNELS, AND USERS THE SYSTEM COULD SUPPORT, AND WHETHER THERE IS A WAY TO INCREASE THE MAXIMUM NUMBER OF SITES, CHANNELS, AND USERS THE SYSTEM COULD SUPPORT. 21

ATTACHMENTS

APPENDIX A – LOCAL, STATE, FEDERAL, AND TRIBAL AGENCIES THAT HAVE A SIGNED AGREEMENT WITH WISCOM AND HAVE REGISTERED RADIOS ON THE SYSTEM.

APPENDIX B – HOW FREQUENTLY AGENCIES HAVE UTILIZED THE WISCOM SYSTEM OVER THE LAST SIX MONTHS FROM DECEMBER 20TH TO MAY 20TH, 2016.

APPENDIX C – ALTERNATIVE COMMUNICATIONS SYSTEMS UTILIZED BY AGENCIES IN WISCONSIN.

APPENDIX D – DAILY USERS WHO UTILIZE WISCOM AS THEIR PRIMARY COMMUNICATIONS SYSTEM.

APPENDIX E – WISCOM TOWER SITES AS OF APRIL 2016.

GLOSSARY OF TERMS

Association of Public Safety Communications Officers (APCO) – Global organization of public safety communications professionals. APCO provides technical and operational expertise, professional development and outreach to communications practitioners worldwide. APCO has and continues to be an industry thought leader and principal driver in communications standards like Project 25.

Automatic Vehicle Location (AVL) – A system for automatically determining and transmitting the geographic location from one or more vehicles, usually collected through a vehicle tracking system.

Backhaul – Industry term for intermediate links used to connect radio tower sites and public safety dispatch centers to the network core(s).

Daily User – Those who use WISCOM as their primary communications system.

EIA/TIA-222G – The American National Standards Institute (ANSI) guidelines for construction of towers, including soil conditions and wind loading of towers.

Federal Communications Commission (FCC) – The primary regulatory authority for communications law, regulation and technological innovation. For LMR, the FCC is responsible for overseeing the integrity of the use of the spectrum allocated to LMR users.

Generators – Provides backup power at tower sites when electricity is lost.

Global Positioning System (GPS) – A satellite based system that provides location and time information anywhere on Earth. GPS is often used by mobile devices to transmit location of personnel, vehicles, and critical assets.

Grounding – A ground is a direct electrical connection to the earth that helps protect equipment during lightning strikes.

Infrastructure – The fixed assets of an LMR infrastructure that support the services necessary for wide-area mobile/in-vehicle and portable/handheld radio communications. Includes components such as towers, equipment shelters, back-up power systems, microwave, fiber, base/repeater stations and antenna systems.

Internet Protocol (IP) – Primary communications protocols used for relaying information across networks. Data travels across an IP network in form of packets.

Interop Users – Those who use WISCOM only for the purposes of interoperability.

Interoperability – The ability of different radio systems and/or subscriber devices to be able to communicate.

Land Mobile Radio (LMR) – A classification of FCC radio communications used by private business, state and local governments and others for coordination of resources and improving efficiency of response in emergency scenarios.

Megahertz (MHz) – A hertz is a unit measure of frequency, defined as one cycle per second. Megahertz or

MHz is equivalent to one million Hertz.

Microwave – The wireless transmission of digitized information from one point to another point (point-to-point) over a specific classification of radio spectrum. Microwave technologies today support high-bandwidth capacity.

Mobile Radio – A two-way radio device physically installed/mounted in a vehicle; usually equipped with a rooftop antenna and a handheld microphone. This radio can typically transmit at a power of 15 watts to 100 watts.

Multicast – Transmission of the same signal or message from multiple radio sites using a different frequency on each site. The site is selected by the radio, based on parameters to ensure the site with the best signal is used.

Narrowbanding – An order from the FCC that mandates Part 90 VHF and UHF frequencies operating in wideband mode (25 kHz) to operate in narrowband mode (12 kHz).

Portable Radio – A two-way radio device typically worn in a radio case (holster) on the hip of the user or the radio may be carried by hand. Portable/handheld radios typically transmit at a lower power (3 watts) than their mobile/in-vehicle (15 or 35 watts) counter-parts.

Project 25 (P25) – A suite of digital two-way radio standards that define over-the-air and network interfaces to enable interoperability between users and computability among P25 equipment providers.

Shelters – The structure that houses the communication equipment, including the repeaters.

Simulcast – Transmission of a specific radio signal from multiple sites using the same frequency. This requires coordination and engineering to ensure sites do not interfere with each other.

Spectrum – In the context of LMR, this refers to a grouping of radio frequencies designated for a specific use such as VHF high band spectrum or 800 MHz spectrum. Different parts of the radio spectrum have different performance characteristics.

Subscriber – In the context of LMR, a subscriber is an individual who uses a mobile/in-vehicle radio or portable/handheld radio to access services on the network.

Subscriber Unit – In the context of this report, a subscriber unit is the device utilized to access WISCOM. This includes mobile/in-vehicle radios, portable/handheld radios, base radios, and dispatch consoles.

Ultra High Frequency (UHF) – This is the frequency band from 450 – 806 MHz and 900 to 952 MHz. UHF is used to describe the frequencies from 400 to 520 MHz when discussing LMR in Wisconsin.

Very High Frequency (VHF) – This is the frequency band from 30 MHz to 300 MHz. This is also the frequency range that Wisconsin operates on.

700/800 MHz – This is the frequency band between 700 MHz and 800 MHz.

EXECUTIVE SUMMARY

The State of Wisconsin's Interoperability Council has been tasked with submitting a report to the Joint Committee on Finance regarding the Wisconsin Interoperable System for Communications (WISCOM). As a component of that report the Joint Committee on Finance proposed that the State Interoperability Council respond to 12 statements which address the physical condition, operational capacity, financial history, and current utilization of WISCOM.

The following responses were prepared by TUSA Consulting Services (a nationally recognized public safety communications consulting firm), Carr, Riggs and Ingram, LLC (a nationally recognized accounting firm), and the Wisconsin Department of Justice. The responses are based on information provided by the State of Wisconsin's Department of Justice, Department of Transportation, Department of Health Services, Department of Corrections, Wisconsin Emergency Management, WISCOM users, various stakeholders, and the WISCOM 999 Workgroup. The Department of Justice and TUSA Consulting Services also interviewed other states in preparing this report.

The Wisconsin Interoperable System for Communications (WISCOM) is a shared system that first responders in communities across the State may use to communicate during a major disaster or large-scale incident. Home rule in Wisconsin allows for local control of communications systems, and WISCOM allows for connectivity of those systems when they exceed their local resources while still respecting home rule. The end result is an in-depth communications system that can support local needs, major disasters, or large-scale incidents.

WISCOM is a Very High Frequency (VHF), digital Project 25 (P25) radio network that currently supports over 24,400 radios registered on the network to be used in an interoperable situation. The system was built to support 95% mobile coverage across the state, while also allowing other agencies the ability to join and enhance the coverage with additional sites. The system supports up to four simultaneous conversation paths during an incident, dramatically increasing the current capacity available with statewide mutual aid channels and allowing first responders from any area of the state to assist another community without losing communications capabilities.

WISCOM has been a catalyst for many success stories, including supporting the Democratic Debates held at the University of Wisconsin – Milwaukee on February 11, 2016. It has also fulfilled its mission of providing interoperable communications when a windstorm took out wireless, landline, and 9-1-1 systems in Bayfield and Douglas Counties. WISCOM was used to coordinate public safety communications activities between and within those counties.

WISCOM has also faced challenges, many of which are typical of large-scale system implementations. Many of the issues encountered by users have previously been addressed, but negative perceptions may remain. There are also current challenges that WISCOM is facing, including that the system has not been properly funded or adequately staffed the way other states have supported their radio projects.

In the end, Wisconsin has deployed an interoperable communications solution for public safety users across Wisconsin and neighboring states. This report is intended to inform the reader about the current status of the WISCOM system. A more detailed report will be forthcoming from an impartial consulting firm hired by the Department of Justice.

STATEMENT 1

A STATEMENT OF THE TOTAL AMOUNT OF MONEY THE STATE HAS EXPENDED OR ANTICIPATES EXPENDING TO DEVELOP, CONSTRUCT, AND OPERATE THE SYSTEM FROM ITS INCEPTION TO FISCAL YEAR 2015-16. THE COUNCIL SHALL IDENTIFY IN THE REPORT THE AMOUNTS THAT HAVE BEEN EXPENDED FROM GENERAL PURPOSE REVENUES, PROGRAM REVENUES, FEDERAL REVENUES, AND SEGREGATED REVENUES. FOR EACH AMOUNT EXPENDED FROM PROGRAM REVENUES, FEDERAL REVENUES, OR SEGREGATED REVENUES, THE COUNCIL SHALL IDENTIFY IN THE REPORT THE REVENUE SOURCE FOR EACH EXPENDITURE.

Expenditures by the State to develop, construct, and operate WISCOM total $43,256,866. When including the expenditures made by local partners who provided substantive assets for WISCOM, total expenditures increase to $47,638,534. Consideration of the WISCOM costs is limited to the time period of 2003 through fiscal year 2016.

Several agencies and local partners operate other communications systems in tandem with operation or use of WISCOM. This creates the potential for resources of another communications system to exist on, or be housed in, the same structure or facility as WISCOM assets. There is potential for the expenditure total identified to have been expensed in support of assets that serve other communications systems in addition to WISCOM. The specific identification and separation of those costs is not practicable. Also, expenditures relating to local partners potentially include the cost of subscriber units, as the record keeping for various partners are not maintained to provide sufficient detail to identify or separate these subscriber costs. Additionally, the expenditures of some state agencies could include the cost of subscriber units, as the cost of the subscriber units were aggregated into the purchase of infrastructure or services provided by vendors to the State.

The State has documented expenditures of $6,242,152 for subscriber units from the inception of WISCOM through fiscal year 2016. The cost of subscriber units is not presented in the primary budgeted figure as the cost does not relate directly to the expansion, operation, or support of WISCOM.

Category	Amount
Federal	$ 29,513,189
Segregated	5,317,050
General Purpose	8,426,627
Local Match	4,381,668
Total	$ 47,638,534

The above table is a breakdown of each revenue source used in the development, construction, and operation of WISCOM. The State has expended $13,743,677 of funds generated through the State's tax base or other revenue sources. The State has expended $29,513,189 of funds provided by various agencies of the Federal government. Also presented are expenditures made by local partners who have contributed assets to WISCOM that have enhanced the system for not only the local partner, but all other users of the system. The expenditure of these specific local partners should be included when considering the historical cost of the

system, as the State would have had to make those expenditures to achieve the expanded coverage provided by these assets. Local partner expenditures include grant match funding and general funding of the local partner, which totaled $4,381,668 over the period of 2003 through fiscal year 2016. The local partner expenditure total includes an indeterminable amount of subscriber unit costs, as the age and condition of some local partner records do not allow for the specific identification of subscriber expenditures from infrastructure expenditures.

The following table is a comprehensive list of revenue sources and amounts expended from program revenues, federal revenues, and segregated revenues.

Funding Type	Funding Source	Funding Amount
FED	JAG ARRA 2009/2011	$ 977,672
FED	Homeland Security 2010/2011/PSIC 2007	17,636,002
FED	WISCOM Frequency Study 2006	464,185
FED	Homeland Security 2011/2012	1,017,175
FED	FBI Funding 2016	98,216
SEG	DOT Budget 2009/2016	5,208,633
FED	PSIC 2007	503,565
FED	Homeland Security Engineering Study 2003	176,904
FED	Homeland Security 2005-2011	8,639,470
SEG	DNR - Brule Site	108,417
	Total	$ 34,830,239

STATEMENT 2

A STATEMENT OF THE ANNUAL OPERATING BUDGET FOR THE SYSTEM FOR FISCAL YEAR 2015-16, IDENTIFYING THE COSTS RELATED TO STAFF, INFRASTRUCTURE EXPANSION, INFRASTRUCTURE MAINTENANCE, SUPPLIES AND SERVICES, AND OTHER COSTS RELATED TO THE SYSTEM.

The State has budgeted $1,045,000 to fund the operation, expansion, and maintenance of WISCOM for fiscal year 2016. This figure represents the direct appropriation by the State Legislature to the State's Department of Transportation and Department of Justice. In addition to these amounts, the State Department of Transportation has budgeted and expended $98,216 in Federal funding during fiscal year 2016 and has also expended $427,999 of its discretionary operating budget in support of the operations and maintenance of WISCOM during fiscal year 2016.

Not included in this amount are the budgeted expenditures of local partners who have contributed assets to WISCOM that have enhanced the system for all users. Depending on the arrangement made with the State, these partners budget and expend their own funds to maintain specific assets that support WISCOM. The amount budgeted by these local partners for fiscal year 2016 could not be accurately determined.

While the fiscal year 2016 budget represents the expected expenditure to meet the needs of supporting WISCOM for the 2016 fiscal year, the level of expenditures required to maintain WISCOM can vary significantly

between years. This point is supported by the additional expenditures made by the State Department of Transportation from its discretionary budget in support of WISCOM. Due to the nature of maintaining a complex statewide communications system, maintenance of the system can range from regular inspection and maintenance of structural or support assets (tower, shelter, generator, etc.) to maintenance of the sites' communication equipment (radio equipment, microwave backhaul, etc.). In addition to regular "annual" maintenance, sites receive extended maintenance to replace or upgrade equipment on a multiple year rotation. For this reason, the required expenditure to appropriately maintain and support WISCOM can vary significantly from year to year depending on the established maintenance schedule. Consideration of the variability between budgeted years for the established maintenance schedule was not accumulated and is not presented in this report. Additional information will be forthcoming in a more detailed report from TUSA Consulting Services.

The cost of subscriber units is not included in the fiscal year 2016 budget. While these costs do not relate directly to the expansion, operation, or support of WISCOM, the impact of the purchase of subscriber units can have a substantial impact on the budget for the year the purchases are made. The purchase of subscriber units is traditionally made in bulk to obtain beneficial pricing from the vendor. This can result in significant spikes in expenditures over multi-year intervals, ranging potentially from 5 to 10 years. To provide context, the State has documented expenditures of $2,482,263 for the purchase of subscriber units in the 2015 budgetary year. (This amount includes $1,021,776 in General Purpose Revenue from the Wisconsin Department of Health Services and $1,460,487 in Federal Homeland Security grant funding)

For fiscal year 2016, the amount budgeted for the support of WISCOM is segregated into the following categories:

Category	Amount
Infrastructure	$ 370,500
Personnel	541,300
Other	133,200
Total	$ 1,045,000

The category "Other" represents expenditures relating to travel, training, supplies, mileage, and consultants.

STATEMENT 3

AN IDENTIFICATION OF THE LOCAL, STATE, AND FEDERAL AGENCIES THAT UTILIZE THE SYSTEM. FOR EACH AGENCY, THE COUNCIL SHALL INDICATE IN THE REPORT HOW FREQUENTLY THE AGENCY UTILIZES THE SYSTEM AND HOW EACH AGENCY UTILIZES THE SYSTEM TO SUPPORT THE AGENCY'S OPERATIONS.

Please reference Appendix A for a list of local, state, and federal agencies that utilize WISCOM, and how those agencies make use of the system. WISCOM users are categorized as Primary and Interoperable (Interop). Primary users are those who use the system on a daily basis. Interop users are those that only use the system

when there is an event that requires communication across systems with federal, state, tribal, local, and private partners. For a list of how frequently agencies utilize WISCOM, please reference Appendix B.

STATEMENT 4

AN IDENTIFICATION OF ANY AGENCY IN THE STATE THAT UTILIZES AN ALTERNATIVE COMMUNICATIONS SYSTEM FOR ITS EMERGENCY RESPONDERS. FOR EACH AGENCY THAT UTILIZES AN ALTERNATIVE COMMUNICATIONS SYSTEM, THE COUNCIL SHALL EXPLAIN IN THE REPORT WHY THE AGENCY UTILIZES AN ALTERNATIVE COMMUNICATIONS SYSTEM AND SHALL SET FORTH ANY BENEFITS THE ALTERNATIVE COMMUNICATIONS SYSTEM PROVIDES TO THE AGENCY.

Please reference Appendix C for the alternative communications systems utilized by agencies in the State.

There are many reasons for counties and agencies within Wisconsin to continue radio operations on county-owned systems. For instance, the mobile radio coverage provided by WISCOM might not fully support the mission of Wisconsin's local partners. As an example, mobile coverage is adequate for state law enforcement that spends much of its field-service time in or near a vehicle equipped with a mobile radio. In contrast, Fire, EMS, and local law enforcement personnel often operate on-foot and require highly reliable portable radio coverage within building structures. WISCOM is a system designed for on-street mobile coverage. Portable in-building coverage on WISCOM (not a designed requirement) is incidental and normally restricted to an area within 5-6 miles of a radio tower site.

Public safety responders carry a portable radio on-hip which demands a radio tower site configuration designed expressly to overcome the signal loss naturally caused by having the radio's antenna obstructed by the officer's body. In addition, a high density urban area would require a more exacting tower site design due to the construction materials used in high-rise buildings, coupled with the signal blockage effect of building clusters. These agencies might also prefer an alternative frequency band that provides better in-building coverage penetration. An alternative system, designed expressly for that agency's needs might provide better portable radio coverage when compared to known WISCOM mobile/vehicle-centric coverage.

Another reason why a municipal or county agency might choose to utilize alternative communications is when that agency may already have a radio communications system in place that adequately supports their daily mission objectives. To replace it could be viewed as wasting money and potentially degrading rather than improving radio coverage within a jurisdiction's service area. Interoperability is only needed with the state or surrounding agencies during mutual aid responses or critical incidents, which make up a relatively small percentage of any agency's actual radio usage. Further, some agencies were faced with a narrowbanding deadline (January 1, 2013) by the FCC and WISCOM was not available at the time of the deadline for their system's implementation.

The cost of switching to WISCOM could also influence an agency's decision to utilize an alternative communications system. For example, a rural or semi-rural agency may be adequately serviced with simple,

low-cost FM analog systems operating in a conventional repeater or radio-to-radio mode. Such an agency may not want or need the advanced features and capabilities inherent within trunking or P25 digital radio technology because these systems cost substantially more to implement and maintain as compared to less-complex, low-capacity solutions.

There is also the potential for cooperation and trust issues to arise between state, county, tribal, and local municipalities. While WISCOM has done its best to minimize these issues, it confronts the same challenges that other states and even municipalities within a county may face. Statewide radio projects may stall after initial construction if political conflicts arise that do not promote the spirit of interoperable communications systems or the benefits of shared resources and lower maintenance costs attainable through combined systems.

It should be noted that WISCOM has the capability of being expanded to provide enhanced statewide portable coverage, but that would require a capital investment involving the addition of numerous tower sites and the acquisition of viable radio spectrum. Such changes would have a ripple effect, requiring an expansion to the ongoing WISCOM maintenance and operations budget funded by the State.

STATEMENT 5

AN IDENTIFICATION OF EACH LOCAL, STATE, AND FEDERAL AGENCY THAT IS A DAILY USER OF THE SYSTEM.

Please reference Appendix D for a list of the daily users who utilize WISCOM as their primary communications system.

STATEMENT 6

AN IDENTIFICATION OF EACH LOCAL, STATE, AND FEDERAL AGENCY THAT IS NOT A DAILY USER OF THE SYSTEM BUT MAY BECOME A DAILY USER IN THE FUTURE. FOR EACH AGENCY IDENTIFIED, THE COUNCIL SHALL INDICATE IN THE REPORT WHEN ITS STATUS AS A DAILY USER IS ANTICIPATED.

The following have indicated interest in becoming daily users of WISCOM:

- Bayfield County
- Federal Border Patrol
- Florence County
- Forest County
- Green County – Initial Discussions with Sheriff and General Communications
- Mayo Medical/Gold Cross Ambulance – Air and Ground Transport Ambulance Service

- ThedaStar Ambulance – Air and Ground Transport Ambulance Service
- Tri-State Ambulance – Ground Transport Ambulance Service

No exact dates have been specified for the agencies that have expressed interest in joining WISCOM. Some of these discussions have been high level while other agencies have expressed interest during a recently completed survey. Any infrastructure discussions with potential new users have focused on coverage requirements above WISCOM's present system signal levels, requiring additional infrastructure deployment. Site planning for additional infrastructure would need to be handled by a qualified public safety radio consulting and engineering firm.

STATEMENT 7

AN EXPLANATION OF THE CURRENT STATUS OF THE SYSTEM'S INFRASTRUCTURE AND AN INDICATION OF WHETHER, AND HOW, THE SYSTEM'S INFRASTRUCTURE MAY BE EXPANDED IN THE FUTURE.

WISCOM infrastructure equipment is comprised of trunked VHF & 800MHz base station repeaters with EF Johnson (EFJ) and CISCO network equipment used to interconnect the various radio sites into a cohesive network/system. Connectivity for WISCOM sites principally utilizes the Wisconsin Department of Transportation (WisDOT) microwave infrastructure, as well as State and commercial fiber networks. The trunked base station and supporting network equipment was purchased from EFJ and integrated by the State (with EFJ engineering and technical support) into a statewide P25 trunked VHF radio network. Additional VHF and 800MHz sites were added as counties and municipalities joined WISCOM.

State technical staff performed all equipment installations at the core WISCOM sites. TUSA personnel conducted site inspections of 26 (19 state, 7 local and EFJ) different tower sites. Inspections by TUSA found installation inconsistencies between sites in different areas of the State. These workmanship and configuration inconsistencies include the cabling between equipment racks, electrical grounding processes, and deviation from other known industry best practices. It was found that the local WISCOM enhancement sites installed and integrated by EFJ personnel were more consistent and generally followed industry standards and typical best practices. Some issues were observed, but overall the sites installed by EFJ appear to follow a more detailed and consistent plan as compared to those installed by the State. However, there were also local WISCOM enhancement sites installed by local vendors where installations did not follow industry best practices

Shelters – The WISCOM equipment shelters are principally preexisting buildings that were part of the Wisconsin State Patrol VHF conventional radio system, as well as the Wisconsin Department of Natural Resources (DNR) VHF conventional system. These equipment shelters have been integrated and maintained by State Patrol technical staff, and are structurally sufficient and have adequate space for the equipment housed within them. Some of the shelters inspected require rework or maintenance which may include antenna port entry panels, electrical grounding, cable tray organization, HVAC repairs, and other customary site maintenance. Also, it was observed that at some sites the RF antenna transmission line cabling was

incorrectly installed. Some of the shelters that were inspected did not have appropriate cable trays to support the WISCOM equipment wiring that was new at the time. Electrical grounding of equipment racks was inconsistent and in some cases was missing altogether. Those installations were found lacking with respect to normal best practices for communications systems of this type and complexity.

Generators – WISCOM (at the sites inspected) utilizes standby power generators that were already existing and supporting legacy WisDOT and DNR VHF conventional radio equipment and the WisDOT microwave network. It is unknown if any initial power load studies were completed to determine if the existing standby generators could actually support the added WISCOM equipment loads. It was reported by DOT staff that generator replacements get placed into an operations budget, but are not part of any formal maintenance/replacement plan. No formal studies have been made at this point to determine if actual replacement or a higher capacity generator is needed to adequately support existing radio equipment loads at sites.

Towers – The WISCOM towers were already in place and supporting the WisDOT and DNR VHF conventional radio systems and the WisDOT microwave network. These towers are maintained by WisDOT and State Patrol technical staff members. Overall, the towers appear to be structurally sufficient to support WISCOM, the conventional VHF systems, and the WisDOT microwave network. However, it is unknown if any professional engineering structural (load and wind/ice survival) studies were conducted as the different radio and microwave systems were incrementally added to these towers. Industry best practices (EIA/TIA-222G) would require a structural engineering study be completed whenever a physical change, such as the addition of new antenna systems, is completed on an existing tower.

Grounding – Electrical grounding at the majority of sites visited by TUSA was in extremely poor condition and in some cases, non-existent. It was reported that lightning issues (i.e., resulting in equipment damage) were recognized early in WISCOM's deployment and as a result, electrical grounding improvements were performed at the affected sites. However, TUSA personnel observed significant workmanship and grounding inconsistencies outside of industry-recognized grounding practices and should be corrected.

The highest risk associated with these system deficiencies noted by TUSA was regarding electrical grounding predominantly observed at sites installed by the State. These grounding issues also present safety concerns for personnel working on any effected sites during inclement weather. Workmanship and cabling deficiencies present a minimal risk to the successful operation of the system. Industry standards are set for cabling to avoid potential interference between power and network cabling in the site.

WISCOM has capabilities for future expansion. However, WISCOM must first be funded to bring the system's installed configuration to current and recognized industry standards and best practices. These would include:

1. System Management and Administration – a large trunked radio network involves daily management and administration for the implementation of new radios/radio users, talk group structure maintenance, and system-use statistics reporting. WISCOM management must develop and conduct programs for administrative and user training and establish preventative, asset tracking and repair maintenance protocols customary for a public safety radio network of this size and complexity. This

management detail is necessary to ensure that sufficient funding mechanisms are in place to support these necessary and required levels of hardware and software maintenance. This also needs to be coupled with plans to refresh tower sites and network infrastructure as hardware and software updates dictate. Consequently, adequate staff is required to provide database administration and establish governance and operation of WISCOM.

2. Updated Frequency Planning – VHF frequency planning can be extremely difficult to both the engineer and the team that is implementing the plan. A flawed or inadequate frequency plan gives rise to self-generated interference and noise levels at tower sites, which results in poor talk-back performance. Talk-back performance relates to a distant user radio (portable or mobile unit) being reliably detected by tower site receivers. An insufficient frequency plan can be perceived by users as bad radio coverage. The State should revisit the current frequency plan to determine if the best set of frequencies at tower sites are being utilized. This will allow each site to perform to its full potential when under heavy radio traffic conditions. This is necessary since site noise levels can rise as more site transmitters are simultaneously placed into operation during high call volume events.

3. Tower Loading Studies – professional engineering studies of current and future planned loading should be conducted for existing towers. These studies may point to overloaded structures needing additional tower member strengthening. In the case of a marginally overloaded tower, the costs for strengthening would be relatively low (less than $50,000). However, older tower structures (in the order of twenty years in service) would have been constructed in accordance to older versions of EIA/TIA-222 and may no longer be viable when evaluated using the current standards for survivability during wind and ice events. Further, the later versions of EIA/TIA-222 give special consideration (meaning more stringent requirements) for structures used in mission-critical applications. In those instances, it may be necessary for the State to construct replacement towers and antenna systems.

4. Power Loading Studies – engineering studies are needed for current power loads to ensure electrical power panels and generators are of sufficient size. P25 tower site base stations at simulcast sites utilize linear power amplifiers that consume more current (higher electrical load) and generate far more heat than traditional non-linear base stations. A higher heat load could result in the need for additions to the site's air conditioning system. When aggregated into sites with multiple channels, such electrical loads could exceed the design of the original site power system and may overstress standby generator components. For these reasons, each site should have an electrical load test performed to determine the suitability of primary and standby electrical systems.

5. Electrical Grounding Upgrades – the electrical grounding systems for both the shelter-located radio equipment and towers require enhancement action. An improper or inadequate electrical grounding system exposes the sensitive base station, local area network, and site connectivity equipment to damage due to potential differences during a lightning storm event. In addition, should a lightning strike occur at the tower site while maintenance is being performed to equipment located inside the

shelter, personnel could be exposed to harm. Repairs or reconfiguration of site grounding methods should be undertaken as soon as possible.

6. Maintenance Planning – the WISCOM P25 network and supporting backhaul infrastructure requires creation of a detailed preventative and repair maintenance plan. This plan would create a formalized maintenance schedule that includes radio electronics, as well as support systems such as battery plants, HVAC, standby generators, towers/tower lights, security systems, software revision status, alarm system integrity, grounds keeping, and other aspects of the total WISCOM investment package.

7. Subscribers – WISCOM should establish best practices for subscriber (user radio) programming, installation of mobile radios, and training guidelines for all users placed onto the radio network. Improperly programmed user radios often cause operational issues that radio users can confuse with inadequate radio coverage even though the base station/tower site equipment is operating properly. Further, it is important for the State to safeguard access to its radio network and allow only authorized users such access. Unauthorized or "cloned" radios, if placed into operation by an outside party, can give rise to radio network instability and intentional interference to public safety communications. A key to ensuring radio network security is a structured plan developed by the State that manages the issuance of radio IDs, as well as the actual talk groups allocated to individual user agencies.

All of the above are geared toward improving the reliability and security of WISCOM. Reliability and security, coupled with radio coverage, are key concerns for those who would consider joining WISCOM versus building or operating separate agency specific radio communications systems. Of course, adopting these recommended actions requires a capital and human resource investment.

WISCOM has contracted TUSA Consulting Services to investigate methodologies and alternatives to maintain the radio network and supporting infrastructure either with State in-sourced staff, contracted out-sourced staff, or a hybrid approach throughout the lifecycle of the network's radio equipment and supporting infrastructure. TUSA's report deliverable would then allow the State to have a clear short-term, mid-term, and long-term lifecycle view of WISCOM's operational costs inclusive of routine maintenance, preventative maintenance, software upgrades, and hardware upgrades. The report deliverable is expected to be completed by November 2016.

STATEMENT 8

A STATEMENT OF WHETHER OTHER MIDWESTERN STATES HAVE DEVELOPED STATEWIDE INTEROPERABLE SYSTEMS FOR COMMUNICATIONS AND WHETHER THE SYSTEM HAS BEEN DEVELOPED IN A MANNER SIMILAR TO THOSE FOUND IN THE OTHER STATES. IF THE SYSTEM HAS NOT BEEN DEVELOPED IN A SIMILAR MANNER, THE COUNCIL SHALL EXPLAIN IN THE REPORT WHY.

The Department of Justice, in conjunction with TUSA Consulting Services, interviewed the surrounding states of Minnesota, Michigan, and Illinois to discover how they deployed their statewide interoperable radio

networks. TUSA also interviewed Kansas, Missouri, and Arkansas to provide other examples. It should be noted that the Department of Justice reached out to the State of Iowa, however they are currently very early in the process of deploying a new statewide radio system and are unable to address any questions at this time.

Illinois – The State of Illinois has deployed STARCOM, a statewide 700/800 MHz P25 radio network. STARCOM utilizes Motorola's ASTRO25 technology. The network is made up of 250 sites and has 45,000 users. While the system provides 95% mobile coverage, certain metropolitan areas have been constructed to support an 8db in-building coverage objective (this is generally equivalent to losses typical of a small single-story office structure). STARCOM went online in 2007 and has slowly expanded to include 250 agencies statewide. 20 of Illinois' 102 counties have joined the network.

Motorola Solutions, which is headquartered in Illinois, built and funded the entire network themselves. In return, they charge a user fee to come on the network in a "pay as you play" scenario. For $53 a month, a user radio gains statewide access. For $35 a month a user's network access is restricted to a host county. Motorola offers other discounts if a user has both a mobile and portable radio registered on the system. The State adopted this approach because it could not identify sufficient funding to pay for private network construction and maintenance. While the monthly model does not make matters less expensive, it allows the State and its user base a more affordable way of spreading out the payments and "buying" only the coverage and capacity its users need.

Michigan – The State of Michigan has deployed a statewide 800 MHz P25 network that has a few 700 MHz channels. The system utilizes Motorola's ASTRO25 technology and has 77,000 users. The system was also the first statewide P25 radio network deployed in the United States. Michigan's system was first commissioned in 1999 (not as P25 then) and while it was designed to provide 97% mobile coverage, it actually provides 95% portable on-street coverage from its 247 sites today.

The original system cost was $226 million. The State has appropriated $40 million for the annual operational expenditures of the system. This appropriation includes all administrative and technical support costs. The State initially charged a user fee for participants, but later found this to be an impediment to interoperability. Today, the State charges a one-time initiation fee of $250 for any radio that is brought onto the system, which has led to greater participation. There are now 64 of the 83 Michigan counties operable on the system.

Minnesota – The State of Minnesota has deployed a statewide 800 MHz P25 network. The network went live between 2000 and 2002 in the Hennepin County area (Twin Cities) and has slowly been expanding over the years. The network is now using Motorola's ASTRO25 technology. It is comprised of 450 sites and has over 92,000 radios authorized for operation on its system. Law Enforcement within 86 of Minnesota's 87 counties, and 84 PSAPs are connected via this network.

The State funded the entire project from the beginning, at a cost of over $500 million. Part of the project was funded through a state bond of $236 million, where debt is paid in the amount of $23 million a year. Grant funding has paid for 44.78% of local costs for agencies to transition to the state system, known as ARMER. The State also funds all continuing maintenance and ongoing support of the system. The annual maintenance budget is $9.6 million and is paid with 9-1-1 funds.

Kansas – The State of Kansas has deployed a statewide 800 MHz P25 mobile network, known as KSICS, with added infrastructure to support portable coverage via other municipalities and counties. KSICS also utilizes Motorola's ASTRO25 technology. It is comprised of 130 sites, and has 30,644 radios authorized to operate on KSICS at present. These are comprised of 6,327 radios for 30 state agencies and 24,317 radios for 1,084 non-state agencies. Kansas DOT (KDOT) personnel use approximately 2,073 radios (portable and mobile).

Funding for the project came from multiple sources, including Federal Highway Administration Grant funds through KDOT, Public Safety Interoperable Communication Grants, and Homeland Security Grants through the Kansas Highway Patrol and various participating counties. While some users contributed funding for the enhancement program and/or own local tower sites utilized by KSICS, a large number of users have been allowed access without charge (except for the cost of radios).

In the past, KDOT has provided the staff and funds for the operations, administration, and maintenance of KSICS. Recent staff reductions and budget considerations require KDOT to explore ways KSICS can be operated and maintained going forward with long-term, self-sustaining funding provided through such methods as leasing, outsourcing, or partnering with a private entity.

Missouri - The State of Missouri has deployed a statewide VHF P25 mobile network that includes 700 MHz overlays to support better portable coverage in cities. The network uses Motorola's ASTRO25 technology. It is comprised of 73 VHF sites and 22 700MHz sites. The State intends to expand the 700 MHz site count to 39 sites. There are currently 23,000 subscribers/users on the network.

The State's initial procurement vehicle was to be a 10-year lease, but because federal funding sources were predicted to gradually dry up, Missouri felt it was important to change strategy and to purchase rather than lease. The network was purchased using PSIC funds and is maintained today using state budgeted funds. Missouri does not charge a fee to any of its member agencies, however non-state agencies must fund their own radios and maintenance service.

Arkansas – The State of Arkansas has deployed a 700MHz/800MHz P25 system. The current system is Motorola's ASTRO25 technology. The system is comprised of 132 sites and contains 28,000 users, of which 40% are state users. Similar to Wisconsin, the Arkansas network is designed to provide 95% mobile-based coverage statewide.

The system was commissioned in 2005 and was funded through capital expenditures and DHS funds. The State's total capital investment in the current infrastructure is $120 million. The State does not charge any user fees and the yearly operational expenditure is $6.8 million a year, which includes personnel costs, administrative costs, technical support, operational support, maintenance (both internal and external) lifecycle services, and all other outsourced services required to support the current system configuration.

There have been similarities between the way WISCOM was developed and the way other states developed their radio solutions. For example, Wisconsin leveraged grant funding to finance the build out of WISCOM. This same approach was used by Kansas, Arkansas, and Missouri. Wisconsin also chose to deploy the system using state resources and expertise whenever possible. This allowed the State to save money on construction

costs by sharing existing resources (i.e., towers, shelters, backhaul, etc.). Minnesota used a similar approach with most of their system's construction work. It is also important to note that other states have had issues in getting full participation by all agencies in a state. For example, there are areas in the Northwest corner of Minnesota that are operating on legacy radio systems 15 years after ARMER became operational.

There are also small differences between WISCOM and other Midwestern State's radio solutions, some of which are described in the above narratives. WISCOM is a fairly new system when compared to the other states previously mentioned. Both Michigan and Minnesota first began operating their radio systems over a decade ago, while WISCOM remains under its five year warranty.

Unfortunately, Wisconsin has not funded the ongoing support and maintenance of WISCOM as other states have done. For example, Missouri funded its system using PSIC grant funds, but has also appropriated annual funding to support ongoing operating/administrative costs and maintenance. Some states like Michigan have set aside $40 million for their annual appropriation.

STATEMENT 9

A STATEMENT OF THE SUCCESSES THE SYSTEM HAS HAD IN PROVIDING EFFECTIVE COMMUNICATIONS AMONG LOCAL, STATE, AND FEDERAL PUBLIC AGENCIES.

WISCOM has experienced numerous successes in providing effective statewide communications between local, state, and federal public safety agencies. While there are many agencies and departments that use WISCOM on a daily basis for normal operations, the following examples illustrate the advantages offered in extraordinary circumstances:

- In July 2011, a windstorm took out wireless, landline, and 9-1-1 systems in Bayfield and Douglas Counties. WISCOM was used to coordinate public safety communications activities between and within the counties. Communications were enabled by the state's WISCOM backbone.

- In 2014, Adams County was hit by severe weather and the county's main radio tower site for countywide communications was disabled by lightning and strong winds. With its radio system off the air, Adams County asked for and received expedited permission to use WISCOM for their daily communication needs. In that event, WISCOM was successfully used for approximately 3 days until Adams County's radio system was brought back online.

- During the 2014 Fat Tire Festival, Bayfield and Sawyer Counties rented a radio system and it collapsed due to lack of capacity. WISCOM regional talkgroups were used to coordinate responses to medical emergencies and injuries for the 3,000 bikers that were visiting.

- WISCOM has been used successfully many times since August of 2014 for "special events" in the Madison area such as UW football games, security for the Freakfest event, and more recently during the protests in and around the Capitol building in response to "right to work" legislation. This network allows for interoperable communications during these events where many agencies are responding (Wisconsin State Patrol, UW Police, Capitol Police, City of Madison Police, etc.).

- WISCOM was successful with the National Guard Reaction Force Exercise in August of 2015. This was an exercise with the City of Waukesha and the Wisconsin National Guard.

- Over 10,000 cross-country skiers descended to attend the 2015 and 2016 Birkibeiner Ski Race. WISCOM was successfully used to report and coordinate emergency medical responses to injured skiers.

- WISCOM was highly successful in providing interoperable communications at the Democratic Debates held at the University of Wisconsin-Milwaukee (UWM) on February 11, 2016. UWM Police used WISCOM RTAC 24 as the incident command talkgroup for the event. The Regional Interoperability Coordinator (RIC) monitored the talkgroup for any communication issues but none were present. The network worked extremely well and the radios performed beyond expectations in providing reliable in-building coverage.

- The WISCOM Site On Wheels (SOW) will be supporting a number of events during 2016 including:
    - Ft. McCoy, Miles Paratus Exercise
    - Eau Claire, Blue Ox Music Festival
    - Southeast Wisconsin Bat-16 Department of Health Services Exercise
    - Eau Claire, Country Jam Music Festival
    - Stevens Point, MABAS Conference
    - Eau Claire Music Festival

STATEMENT 10

A STATEMENT OF ANY CHALLENGES THE SYSTEM HAS FACED IN PROVIDING EFFECTIVE COMMUNICATIONS AMONG LOCAL, STATE, AND FEDERAL PUBLIC AGENCIES AND HOW THE CHALLENGES COULD BE ADDRESSED.

Yes, WISCOM has faced challenges. Some are typical to any large-scale system implementation and others have been unique to Wisconsin. Many of the challenges encountered by users have previously been addressed, but negative perceptions may remain.

Some of the current challenges impacting WISCOM include inadequate staffing and insufficient funding to support the day-to-day monitoring and maintenance of the system. There is a large amount of work required to support a network of this size, and WISCOM has experienced problems related to this (see Statement 7). For example, if a large storm rolled through Wisconsin and took out multiple sites, WISCOM does not have

sufficient staff and system assets to bring them back online in a timely manner. This could result in first responders operating on a degraded network for an extended period of time.

There are other imminent issues to consider. As the system ages, the cost of maintenance will increase as equipment reaches the end of its natural lifecycle and needs to be replaced. This is critical because the current five-year warranty period is about to expire on the trunking equipment. The network is also going to require software and security updates. All of these will require additional funding.

While WISCOM has had relative success in the deployment of a statewide mobile based two-way radio system, which was its core purpose and charge, many of the challenges seen have come from the build out and deployment of local sub-systems. These sub-systems have had varying degrees of success based on the amount of planning, engineering, and consistent programming within those locally controlled sub-system build outs and implementations. Policies are currently being developed to create clear criteria for sub-system migration to WISCOM in an effort to reduce the potential for future challenges.

Many of the challenges that WISCOM has experienced could be addressed with proper staffing and funding of the network. As discussed, an appropriate business case model and reliable funding mechanism would bring WISCOM into a sustainment phase typical of other state-owned radio communications systems. In addition, the Department of Justice is committed to addressing all known and unknown issues of WISCOM, which is why it has retained TUSA Consulting Services to review the issues experienced by some daily WISCOM users and make recommendations for correction. In addition, TUSA Consulting Services will be assisting the State with developing a business case model recommended for implementation to WISCOM.

STATEMENT 11

AN EXPLANATION OF TO WHAT EXTENT THE SYSTEM IS COMPATIBLE WITH OTHER EMERGENCY RESPONSE COMMUNICATION NETWORKS UTILIZED BY LOCAL AGENCIES AND AN INDICATION OF WHETHER THE SYSTEM'S VERY HIGH FREQUENCY CHANNELS OR SITES HAVE INTERFERED WITH A CHANNEL OR SITE UTILIZED BY A LOCAL EMERGENCY RESPONDER. FOR EACH INCIDENT OF INTERFERENCE, THE COUNCIL SHALL INDICATE IN THE REPORT WHY THE INCIDENT OCCURRED AND WHAT HAS OR WILL BE DONE TO ADDRESS THE PROBLEM OF INTERFERENCE.

WISCOM's mission is to provide a statewide radio backbone to support interoperable radio communications for public safety users across Wisconsin and with neighboring states. WISCOM subscribers, both mobile and portable, are directly compatible with local agencies that use VHF conventional, P25 conventional, and P25 trunked radio networks. WISCOM 800MHz P25 sites provide a level of interoperability between VHF WISCOM users and other 700/800MHz P25 systems used by agencies in those areas.

WISCOM has facilitated interoperable communications to users on disparate radio systems using a combination of P25 ISSI connections, radio console connections, and gateways. The solution used is dependent upon the local system infrastructure.

WISCOM staff have documented one reported instance of interference with a channel or site utilized by a local emergency responder. On September 29, 2014, WISCOM received a report of interference in Dane County. This issue was due to a frequency used as a Transmit Frequency on the Blue Mounds WISCOM tower site that was conflicting with the repeater input for Dane County Sheriff Channel 1. The Sheriff Channel input is 154.710 MHz, and it was operating in Wideband Mode. The channel at Blue Mounds was transmitting on 154.695 MHz in Narrowband Mode. Both of these frequencies were properly licensed at the time, and both systems were operating within the licensed requirements. However, the Dane County Sheriff's frequency should have been vacated by the narrowband deadline of January 1st, 2013.

Over the summer of 2014, Dane County began investigating performance issues on the Dane County Sheriff 1 repeater channel. It was found by the City of Madison Radio Shop (maintenance provider for the existing Dane County Radio System) that a fairly strong signal was being received into the repeater. It was strong enough that it could cause weaker signals to be missed by the system (not heard by dispatch or relayed by the repeater). The radio shop was able to determine that the site was transmitting a signal with a system ID of B0C (the WISCOM system ID).

Dane County made contact with WISCOM staff and the issue was found to be a frequency at Blue Mounds. The channel was shut down and performance on the Dane County Sheriff 1 Channel improved. The interference was due to the fact that Dane County has been operating on a waiver from the FCC, and operating in Wideband mode (25khz channel spacing). This waiver had been granted to Dane County due to their new system that is under construction. Dane County was advised, through the FCC waiver process, that they could experience interference from adjacent channels.

This incident of interference has been addressed. WISCOM staff disabled the frequencies that were causing the interference. Once Dane County completes narrowbanding (Danecom goes live), WISCOM staff will re-enable the frequency.

STATEMENT 12

A STATEMENT OF THE NUMBER OF SITES, CHANNELS, AND USERS THE SYSTEM CURRENTLY SUPPORTS, THE MAXIMUM NUMBER OF SITES, CHANNELS, AND USERS THE SYSTEM COULD SUPPORT, AND WHETHER THERE IS A WAY TO INCREASE THE MAXIMUM NUMBER OF SITES, CHANNELS, AND USERS THE SYSTEM COULD SUPPORT.

Please reference Appendix E for a map of the WISCOM tower sites as of April 2016. The WISCOM system currently consists of 116 tower sites, 627 repeaters (average of 5 channels per site), and 24,400 radios registered on the network.

The EF Johnson ATLAS technology is based on a distributed architecture. As such, there is no practical (meaning FCC-licensable) capacity limit. An ATLAS radio configuration (defined by WACN ID/System ID) can support up to 255 RFSS (Radio Frequency Subsystem Controller) where each RFSS can support up to 255 sites,

totaling 65,025 sites. Each site can support up to 28 channels (one control channel, 27 traffic channels). Since WISCOM sites are deployed with five channels on average, the system is operating at around 20% of overall channel capacity at each site. The current configuration supports 48,000 radios, and can easily be expanded. To determine the next layer of support, EF Johnson would have to go through approximately six months of testing and validation. Any limitations that the State may face in expanding WISCOM would be frequency availability in the VHF or 700/800MHz frequency bands.

The ATLAS technology used by WISCOM could be expanded to support more sites, channels, and users. In fact, an EF Johnson system spans the entire P25 ID space of 16 million radios, which is more than the total population of Wisconsin, Minnesota, North Dakota, and Iowa combined. The only hurdles that Wisconsin would have to overcome are finding licensable frequencies and sustainable funding, but the system can readily be expanded to support Wisconsin's needs.

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Appendix A

Local, State, Federal, and Tribal Agencies Utilizing WISCOM

The following table shows all local, state, federal, and tribal agencies that have a signed agreement with WISCOM and have registered radios on the system.

County	WISCOM User Agency	Type	Service	User Type
Adams	Adams Co EM	County	EM	Interop
Adams	Adams Co Sheriff	County	Law	Interop
Adams	Adams PD	Local	Law	Interop
Ashland	Ashland Co Sheriff	County	Law	Interop
Ashland	Ashland FD	Local	Fire	Interop
Barron	Barron Co Sheriff	County	Law	Interop
Barron	Barron PD	Local	Law	Interop
Barron	Bear Lake Haugen FD	Local	Fire	Interop
Barron	Cameron PD	Local	Law	Interop
Barron	Chetek PD	Local	Law	Interop
Barron	Cumberland PD	Local	Law	Interop
Barron	Dallas PD	Local	Law	Interop
Barron	Prairie Farm PD	Local	Law	Interop
Barron	Prairie Farm FD	Local	Fire	Interop
Barron	Rice Lake PD	Local	Law	Interop
Barron	Turtle Lake PD	Local	Law	Interop
Bayfield	Barnes EMS	Local	EMS	Interop
Bayfield	Barnes FD	Local	Fire	Interop
Bayfield	Bayfield Co EM	County	EM	Interop
Bayfield	Bayfield Co Sheriff	County	Law	Interop
Bayfield	Bayfield EMS	Local	EMS	Interop
Bayfield	Bayfield FD	Local	Fire	Interop
Bayfield	Bayfield PD	Local	Law	Interop
Bayfield	Cable FD	Local	Fire	Interop
Bayfield	Cornucopia FD	Local	Fire	Interop
Bayfield	Drummond FD	Local	Fire	Interop
Bayfield	Great Divide EMS	Local	EMS	Interop
Bayfield	Grand View FD	Local	Fire	Interop
Bayfield	Herbster FD	Local	Fire	Interop
Bayfield	Iron River EMS	Local	EMS	Interop
Bayfield	Iron River FD	Local	Fire	Interop
Bayfield	Iron River PD	Local	Law	Interop
Bayfield	Mason EMS	Local	EMS	Interop
Bayfield	Mason FD	Local	Fire	Interop
Bayfield	Namekagon FD	Local	Fire	Interop
Bayfield	Port Wing FD	Local	Fire	Interop
Bayfield	Red Cliff EMS	Local	EMS	Interop
Bayfield	Red Cliff FD	Local	Fire	Interop
Bayfield	Red Cliff PD	Local	Law	Interop
Bayfield	South Shore EMS	Local	EMS	Interop

County	WISCOM User Agency	Type	Service	User Type
Bayfield	Washburn EMS	Local	EMS	Interop
Bayfield	Washburn FD	Local	Fire	Interop
Bayfield	Washburn PD	Local	Law	Interop
Brown	County Rescue Service	Local	EMS	Interop
Brown	Brown Co EM	County	EM	Interop
Brown	De Pere FD	Local	Fire	Interop
Brown	Green Bay DPW	Local	DPW	Interop
Brown	Green Bay PD	Local	Law	Interop
Brown	Howard FD	Local	Fire	Interop
Brown	New Franken FD	Local	Fire	Interop
Buffalo	Buffalo Co EM	County	EM	Interop
Buffalo	Buffalo Co Sheriff	County	Law	Interop
Burnett	Burnett Co EM	County	EM	Interop
Burnett	Burnett Co Sheriff's Office	County	Law	Interop
Burnett	Grantsburg PD	Local	Law	Interop
Calumet	Calumet Co EM	County	EM	Interop
Calumet	New Holstein PD	Local	Law	Interop
Chippewa	Bloomer PD	Local	Law	Interop
Chippewa	Chippewa Co Sheriff	County	Law	Interop
Chippewa	Chippewa Falls EM	Local	EM	Interop
Chippewa	Chippewa Falls PD	Local	Law	Interop
Chippewa	Cornell PD	Local	Law	Interop
Chippewa	Hallie PD	Local	Law	Interop
Chippewa	Lake Hallie PD	Local	Law	Interop
Chippewa	New Auburn PD	Local	Law	Interop
Clark	Clark Co EM	County	EM	Interop
Clark	Clark Co Sheriff	County	Law	Interop
Clark	Greenwood PD	Local	Law	Interop
Clark	Loyal PD	Local	Law	Interop
Clark	Neillsville PD	Local	Law	Interop
Clark	Owen PD	Local	Law	Interop
Clark	Thorpe PD	Local	Law	Interop
Columbia	Columbia Co Sheriff	County	Law	Interop
Columbia	Columbia Co EM	County	Law	Interop
Columbia	Columbus FD	Local	Fire	Interop
Columbia	Columbus PD	Local	Law	Interop
Columbia	Divine Savior EMS	Local	EMS	Interop
Columbia	Fall River PD	Local	Law	Interop
Columbia	Pardeeville EMS	Local	EMS	Interop
Columbia	Portage PD	Local	Law	Interop
Columbia	Wyocena PD	Local	Law	Interop
Crawford	CRSO PSAP	Local	Law	Interop
Dane	Belleville FD	Local	Fire	Interop
Dane	Belleville PD	Local	Law	Interop
Dane	Blooming Grove EMS	Local	EMS	Interop

County	WISCOM User Agency	Type	Service	User Type
Dane	Blooming Grove FD	Local	Fire	Interop
Dane	Blue Mounds PD	Local	Law	Interop
Dane	Brooklyn DPW	Local	DPW	Interop
Dane	Brooklyn FD	Local	Fire	Interop
Dane	Brooklyn PD	Local	Law	Interop
Dane	Cambridge EMS	Local	EMS	Interop
Dane	Cottage Grove PD	Local	Law	Interop
Dane	Cottage Grove FD	Local	Law	Interop
Dane	Cross Plains DPW	Local	DPW	Interop
Dane	Cross Plains EMS	Local	EMS	Interop
Dane	Cross Plains FD	Local	Fire	Interop
Dane	Cross Plains PD	Local	Law	Interop
Dane	Dane Co Airport	County	Airport	Interop
Dane	Dane Co Animal Control	County	AC	Interop
Dane	Dane Co EM	County	EM	Interop
Dane	Dane Co Public Safety Comm	County	Comm	Interop
Dane	Dane Co Sheriff	County	Law	Interop
Dane	Dane FD	Local	Fire	Interop
Dane	Deer Grove EMS	Local	EMS	Interop
Dane	Deerfield FD	Local	Fire	Interop
Dane	DeForest PD	Local	Law	Interop
Dane	Fitchburg DPW	Local	DPW	Interop
Dane	Fitchburg FD	Local	Fire	Interop
Dane	Fitchburg PD	Local	Law	Interop
Dane	Fitchrona EMS	Local	EMS	Interop
Dane	Madison FD	Local	Fire	Interop
Dane	Madison Radio Shop	Local	Comm	Interop
Dane	Maple Bluff DPW	Local	DPW	Interop
Dane	Maple Bluff FD	Local	Fire	Interop
Dane	Maple Bluff PD	Local	Law	Interop
Dane	Marshall EMS	Local	EMS	Interop
Dane	Marshall FD	Local	Fire	Interop
Dane	Mazomanie EMS	Local	EMS	Interop
Dane	Mazomanie FD	Local	Fire	Interop
Dane	McFarland DPW	Local	DPW	Interop
Dane	McFarland FD	Local	Fire	Interop
Dane	McFarland PD	Local	Law	Interop
Dane	Meriter Hospital	Hospital	EMS	Interop
Dane	Middleton DPW	Local	DPW	Interop
Dane	Middleton EMS	Local	EMS	Interop
Dane	Middleton FD	Local	Fire	Interop
Dane	Middleton PD	Local	Law	Interop
Dane	Monona FD	Local	Fire	Interop
Dane	Monona PD	Local	Law	Interop
Dane	Mount Horeb FD	Local	Fire	Interop

County	WISCOM User Agency	Type	Service	User Type
Dane	Mount Horeb PD	Local	Law	Interop
Dane	Oregon FD	Local	Fire	Interop
Dane	Ryan Brothers Ambulance	NGO	EMS	Interop
Dane	Shorewood Hills PD	Local	Law	Interop
Dane	St Mary's Hospital Madison	Hospital	EMS	Interop
Dane	Stoughton FD	Local	Fire	Interop
Dane	Stoughton Hospital	Hospital	EMS	Interop
Dane	Stoughton PD	Local	Law	Interop
Dane	Sun Prairie FD	Local	Fire	Interop
Dane	Sun Prairie PD	Local	Law	Interop
Dane	Town of Madison PD	Local	Law	Interop
Dane	UW Hospital Madison	Hospital	EMS	Interop
Dane	VA Hospital Madison	Hospital	EMS	Interop
Dane	Verona FD	Local	Fire	Interop
Dane	Verona PD	Local	Law	Interop
Dodge	Dodge Co Emergency Response Team	County	NGO	Interop
Dodge	Dodge County EM	County	EM	Interop
Dodge	Dodge County Sheriff	County	Law	Interop
Dodge	Lomira FD	Local	Fire	Interop
Dodge	Mayville EMS	Local	EMS	Interop
Dodge	Mayville PD	Local	Law	Interop
Dodge	Theresa FD	Local	Fire	Interop
Door	Door Co Sheriff	County	Law	Interop
Douglas	Amnicon FD	Local	Fire	Interop
Douglas	Brule DPW	Local	DPW	Interop
Douglas	Brule FD	Local	Fire	Interop
Douglas	Dairyland FD	Local	Fire	Interop
Douglas	Douglas Co EM	County	EM	Primary
Douglas	Douglas Co Forestry	County	DPW	Primary
Douglas	Douglas Co Highway	County	DPW	Primary
Douglas	Douglas Co Sheriff	County	Law	Interop
Douglas	Gordon FD	Local	Fire	Interop
Douglas	Gordon Wascott EMS	Local	EMS	Interop
Douglas	Hawthorne FD	Local	Fire	Interop
Douglas	Highland FD	Local	Fire	Interop
Douglas	Lake Nebagamon FD	Local	Fire	Interop
Douglas	Lake Nabagamon PD	Local	Law	Interop
Douglas	Lakeside FD	Local	Fire	Interop
Douglas	Maple FD	Local	Fire	Interop
Douglas	Oakland FD	Local	Fire	Interop
Douglas	Parkside FD	Local	Fire	Interop
Douglas	Poplar FD	Local	Fire	Interop
Douglas	Solon Springs FD	Local	Fire	Interop
Douglas	Summit FD	Local	Fire	Interop
Douglas	Superior FD	Local	Fire	Primary

County	WISCOM User Agency	Type	Service	User Type
Douglas	Superior PD	Local	Law	Primary
Douglas	Town of Superior FD	Local	Fire	Interop
Douglas	Wascott FD	Local	Fire	Interop
Dunn	Boyceville EMS	Local	EMS	Interop
Dunn	Boyceville FD	Local	Fire	Interop
Dunn	Boyceville PD	Local	Law	Primary
Dunn	Colfax EMS	Local	EMS	Interop
Dunn	Colfax FD	Local	Fire	Interop
Dunn	Colfax PD	Local	Law	Primary
Dunn	Dunn Co EM	County	EM	Primary
Dunn	Dunn Co Sheriff	County	Law	Primary
Dunn	Elk Mound FD	Local	Fire	Interop
Dunn	Elk Mound PD	Local	Law	Primary
Dunn	Menomonie FD	Local	Fire	Interop
Dunn	Menomonie PD	Local	Law	Interop
Dunn	Ridgeland FD	Local	Fire	Interop
Dunn	Rock Creek FD	Local	Fire	Interop
Dunn	Sand Creek PD	Local	Law	Primary
Dunn	Wheeler PD	Local	Law	Primary
Eau Claire	Eau Claire Co Comm	County	Comm	Interop
Eau Claire	Eau Claire Co EM	County	EM	Interop
Eau Claire	Eau Claire Co Sheriff	County	Law	Interop
Eau Claire	Township FD	Local	Fire	Interop
Eau Claire	Eau Claire PD	Local	Law	Interop
Florence	Florence Co Sheriff	County	Law	Interop
Fond du Lac	Brandon FD	Local	Fire	Interop
Fond du Lac	Brandon PD	Local	Law	Interop
Fond du Lac	Campbellsport FD	Local	Fire	Interop
Fond du Lac	Campbellsport PD	Local	Law	Interop
Fond du Lac	Eden FD	Local	Fire	Interop
Fond du Lac	Fond du Lac Co EM	County	EM	Interop
Fond du Lac	Fond du Lac DPW	Local	DPW	Interop
Fond du Lac	Fond du Lac FD	Local	Fire	Primary
Fond du Lac	Fond du Lac PD	Local	Law	Primary
Fond du Lac	Fond du Lac Transit	Local	Transit	Primary
Fond du Lac	Lamartine FD	Local	Fire	Interop
Fond du Lac	Mount Calvary EMS	Local	EMS	Interop
Fond du Lac	North Fond du Lac FD	Local	Fire	Interop
Fond du Lac	North Fond du Lac PD	Local	Law	Primary
Fond du Lac	Oakfield FD	Local	Fire	Interop
Fond du Lac	Oakfield PD	Local	Law	Interop
Fond du Lac	Ripon PD	Local	Law	Interop
Fond du Lac	Rosendale FD	Local	Fire	Interop
Fond du Lac	Rosendale PD	Local	Law	Interop
Fond du Lac	St Agnes Hospital	Hospital	EMS	Interop

County	WISCOM User Agency	Type	Service	User Type
Fond du Lac	Town of Fond du Lac FD	Local	Fire	Interop
Fond du Lac	Town of Ripon PD	Local	Law	Interop
Forest	Crandon PD	Local	Law	Interop
Forest	Forest Co EM	County	EM	Interop
Forest	Forest Co Sheriff	County	Law	Interop
Forest	Laona PD	Local	Law	Interop
Forest	Wabeno PD	Local	Law	Interop
Goodhue (MN)	Goodhue Co Sheriff	County	Law	Interop
Grant	Bagley FD	Local	Fire	Interop
Grant	Blue River FD	Local	Fire	Interop
Grant	Boscobel FD	Local	Fire	Interop
Grant	Cuba City EMS	Local	EMS	Interop
Grant	Cuba City FD	Local	Fire	Interop
Grant	Dickeyville FD	Local	Fire	Interop
Grant	Grant Co EM	County	EM	Interop
Grant	Grant Co Sheriff	County	Law	Interop
Grant	Hazel Green FD	Local	Fire	Interop
Grant	Jamestown FD	Local	Fire	Interop
Grant	Lancaster FD	Local	Fire	Interop
Grant	Livingston FD	Local	Fire	Interop
Grant	Montfort FD	Local	Fire	Interop
Grant	Mount Hope FD	Local	Fire	Interop
Grant	Muscoda FD	Local	Fire	Interop
Grant	Patch Grove FD	Local	Fire	Interop
Grant	Platteville FD	Local	Fire	Interop
Grant	Potosi FD	Local	Fire	Interop
Grant	Stitzer FD	Local	Fire	Interop
Green	Green Co Sheriff	County	Law	Interop
Green	Brodhead FD	Local	Fire	Interop
Green	Monroe PD	Local	Law	Interop
Green Lake	Green Lake Co Sheriff	County	Law	Interop
Green Lake	Berlin PD	Local	Law	Interop
Green Lake	Green Lake EM	County	EM	Interop
IA	Iowa USAR Task Force 1	Federal	Federal	Interop
Iowa	Arena EMS	Local	EMS	Primary
Iowa	Arena FD	Local	Fire	Primary
Iowa	Arena PD	Local	Law	Primary
Iowa	Avoca EMS	Local	EMS	Primary
Iowa	Avoca FD	Local	Fire	Primary
Iowa	Avoca PD	Local	Law	Primary
Iowa	Barneveld EMS	Local	EMS	Primary
Iowa	Barneveld FD	Local	Fire	Primary
Iowa	Barneveld PD	Local	Law	Primary
Iowa	Blackhawk Lake Park	Local	Law	Primary
Iowa	Cobb FD	Local	Fire	Primary

County	WISCOM User Agency	Type	Service	User Type
Iowa	Dodgeville EMS	Local	EMS	Primary
Iowa	Dodgeville FD	Local	Fire	Primary
Iowa	Dodgeville PD	Local	Law	Primary
Iowa	Highland EMS	Local	EMS	Primary
Iowa	Highland FD	Local	Fire	Primary
Iowa	Highland PD	Local	Law	Primary
Iowa	Hollandale FD	Local	Fire	Primary
Iowa	Iowa Co EM	County	EM	Primary
Iowa	Iowa Co Sheriff	County	Law	Primary
Iowa	Linden FD	Local	Fire	Primary
Iowa	Linden PD	Local	Law	Primary
Iowa	Mineral Point EMS	Local	EMS	Primary
Iowa	Mineral Point FD	Local	Fire	Primary
Iowa	Mineral Point PD	Local	Law	Primary
Iowa/Grant	Montfort EMS	Local	EMS	Primary
Iowa	Rewey FD	Local	Fire	Primary
Iowa	Rewey PD	Local	Law	Primary
Iowa	Ridgeway FD	Local	Fire	Primary
Iowa	Ridgeway PD	Local	Law	Primary
Iowa	Upland Hills Health	Local	EMS	Interop
Iron	Iron Co EM	County	EM	Interop
Iron	Iron Co Sheriff	County	Law	Interop
Jackson	Hochunk PD	Local	Law	Interop
Jackson	Jackson Co Sheriff	County	Law	Interop
Jackson	Jackson Co EM	County	EM	Interop
Jackson	Melrose PD	Local	Law	Interop
Jefferson	Jefferson Co EM	County	EM	Interop
Jefferson	Jefferson Co Sheriff	County	Law	Interop
Jefferson	Oakland PD	Local	Law	Interop
Jefferson	Palmyra PD	Local	Law	Interop
Jefferson	Watertown PD	Local	Law	Interop
Juneau	Armenia FD	Local	Fire	Primary
Juneau	Camp Douglas DPW	Local	DPW	Interop
Juneau	Camp Douglas EMS	Local	EMS	Primary
Juneau	Camp Douglas FD	Local	Fire	Primary
Juneau	Cutler FD	Local	Fire	Primary
Juneau	Elroy DPW	Local	DPW	Interop
Juneau	Elroy EMS	Local	EMS	Primary
Juneau	Elroy FD	Local	Fire	Primary
Juneau	Elroy PD	Local	Law	Primary
Juneau	Juneau Co EM	County	EM	Primary
Juneau	Juneau Co Sheriff	County	Law	Primary
Juneau	Juneau Co Highway	County	DPW	Interop
Juneau	Lyndon Station FD	Local	Fire	Primary
Juneau	Lyndon Station PD	Local	Law	Primary

County	WISCOM User Agency	Type	Service	User Type
Juneau	Mauston EMS	Local	EMS	Primary
Juneau	Mauston DPW	Local	DPW	Interop
Juneau	Mauston PD	Local	Law	Primary
Juneau	Necedah PD	Local	Law	Primary
Juneau	Necedah FD	Local	Fire	Primary
Juneau	New Lisbon EMS	Local	EMS	Primary
Juneau	New Lisbon FD	Local	Fire	Primary
Juneau	New Lisbon PD	Local	Law	Primary
Juneau	Town of Necedah	Local		Interop
Juneau	Town of Germantown	Local	DPW	Interop
Juneau	Union Center FD	Local	Fire	Primary
Juneau	Union Center PD	Local	Law	Primary
Juneau	Wonewoc DPW	Local	DPW	Interop
Juneau	Wonewoc FD	Local	Fire	Primary
Juneau	Wonewoc PD	Local	Law	Primary
Lake (IL)	Air One	NGO	Air	Interop
Kenosha	Kenosha Co Comm Center	Local	Comm	Interop
Kenosha	Kenosha Co EM	Local	EM	Interop
Kenosha	Kenosha PD	Local	Law	Interop
Kenosha	Pleasant Prairie FD	Local	Fire	Interop
Kenosha	Trevor PD	Local	Law	Interop
Kenosha	Twin Lakes PD	Local	Law	Interop
Kewaunee	Algoma EMS	Local	EMS	Primary
Kewaunee	Algoma FD	Local	Fire	Primary
Kewaunee	Algoma PD	Local	Law	Primary
Kewaunee	Carlton FD	Local	Fire	Primary
Kewaunee	Casco EMS	Local	EMS	Primary
Kewaunee	Casco FD	Local	Fire	Primary
Kewaunee	Kewaunee Co EM	County	EM	Primary
Kewaunee	Kewaunee Co Highway	County	DPW	Primary
Kewaunee	Kewaunee Co Sheriff	County	Law	Primary
Kewaunee	Kewaunee EMS	Local	EMS	Primary
Kewaunee	Kewaunee FD	Local	Fire	Primary
Kewaunee	Kewaunee PD	Local	Law	Primary
Kewaunee	Luxemburg EMS	Local	EMS	Primary
Kewaunee	Luxemburg FD	Local	Fire	Primary
Kewaunee	Luxemburg PD	Local	Law	Primary
Kewaunee	Montpelier FD	Local	Fire	Primary
Kewaunee	Tisch Mills FD	Local	Fire	Primary
La Crosse	Campbell EM	Local	EM	Interop
La Crosse	Campbell FD	Local	Fire	Interop
La Crosse	Gunderson Lutheran Medical Center	Hospital	EMS	Interop
La Crosse	La Crosse Co Comm Center	County	Comm	Interop
La Crosse	La Crosse Co EM	County	EM	Interop
La Crosse	La Crosse Co Mass Casualty Team	County	EMS	Interop

County	WISCOM User Agency	Type	Service	User Type
La Crosse	La Crosse Co Sheriff	County	Law	Interop
La Crosse	La Crosse PD	Local	Law	Interop
La Crosse	Shelby FD	Local	Fire	Interop
La Crosse	West Salem EMS	Local	EMS	Interop
La Crosse	West Salem PD	Local	Law	Interop
Lafayette	Belmont EMS	Local	EMS	Interop
Lafayette	Blanchardville	Local	EMS	Interop
Lafayette	Blanchardville FD	Local	Fire	Interop
Lafayette	Darlington FD	Local	Fire	Interop
Lafayette	Darlington PD	Local	Law	Interop
Lafayette	Lafayette Co Sheriff	County	Law	Interop
Langlade	Antigo FD	Local	Fire	Interop
Langlade	Antigo PD	Local	Law	Interop
Langlade	Langlade Co EM	County	EM	Interop
Langlade	Langlade Co Sheriff	County	Law	Interop
Lincoln	Lincoln Co EM	County	EM	Interop
Lincoln	Lincoln Co Sheriff	County	Law	Interop
Manitowoc	Branch FD	Local	Fire	Interop
Manitowoc	Manitowoc Co Comm Center	County	Comm	Interop
Manitowoc	Manitowoc Co Sheriff	County	Law	Interop
Manitowoc	Manitowoc PD	Local	Law	Interop
Manitowoc	Maribel FD	Local	Fire	Interop
Manitowoc	Reedsville FD	Local	Fire	Interop
Manitowoc	Silver Creek FD	Local	Fire	Interop
Manitowoc	Town of Two Creeks FD	Local	Fire	Interop
Manitowoc	Town of Two Rivers FD	Local	Fire	Interop
Manitowoc	Two Rivers FD	Local	Fire	Interop
Manitowoc	Two Rivers PD	Local	Law	Interop
Manitowoc	Valders PD	Local	Law	Interop
Marathon	Kronenwetter PD	Local	Law	Interop
Marathon	Marathon Co EM	County	EM	Interop
Marathon	Marathon Co Sheriff	County	Law	Interop
Marathon	Rib Mountain FD	Local	Fire	Interop
Marathon	Spencer FD	Local	Fire	Interop
Marinette	Marinette Co EM	County	EM	Interop
Marinette	Marinette Co Sheriff	County	Law	Interop
Marquette	Marquette Co EM	County	EM	Interop
Marquette	Marquette Co Sheriff	County	Law	Interop
Menominee	Menominee Co Comm	County	Comm	Interop
Menominee	Menominee Co EM	County	EM	Interop
Menominee	Menominee Co Transit	County	Transit	Primary
Menominee	Menominee Indian Tribe	Tribal	Tribal	Interop
Milwaukee	Bayside PD	Local	Law	Interop
Milwaukee	Frankllin PD	Local	Law	Interop
Milwaukee	Greenfield FD	Local	Fire	Primary

County	WISCOM User Agency	Type	Service	User Type
Milwaukee	Greenfield PD	Local	Law	Primary
Milwaukee	HIDTA	Local	Law	Interop
Milwaukee	Milwaukee Co Airport FD	County	Fire	Interop
Milwaukee	Milwaukee Co ARES	County	NGO	Interop
Milwaukee	Milwaukee Co District Attorney	County	Law	Interop
Milwaukee	Milwaukee Co EM	County	EM	Interop
Milwaukee	Milwaukee Co EMS	County	EMS	Interop
Milwaukee	Milwaukee Co IMSD	County	Comm	Interop
Milwaukee	Milwaukee Co Sheriff	County	Law	Interop
Milwaukee	Milwaukee FD	Local	Fire	Interop
Milwaukee	Milwaukee PD	Local	Law	Interop
Milwaukee	North Shore CP	Local	Law	Interop
Milwaukee	North Shore FD	Local	Fire	Interop
Milwaukee	Oak Creek PD	Local	Law	Interop
Milwaukee	St Francis FD	Local	Fire	Interop
MN	Gold Cross EMS	Local	EMS	Primary
MN	North Memorial Ambulance Service	Local	EMS	Primary
MN	Olmstead Co EM	County	EM	Interop
Monroe	Cashton PD	Local	Law	Interop
Monroe	Kendall PD	Local	Law	Interop
Monroe	Monroe Co Sheriff	County	Law	Interop
Monroe	Norwalk PD	Local	Law	Interop
Monroe	Sparta PD	Local	Law	Interop
Monroe	Tomah PD	Local	Law	Interop
Monroe	Warrens PD	Local	Law	Interop
Oconto	Oconto Co EM	County	EM	Interop
Oconto	Oconto Co Sheriff	County	Law	Interop
Oneida	Cassian FD	Local	Fire	Interop
Oneida	Crescent FD	Local	Fire	Interop
Oneida	Little Rice FD	Local	Fire	Interop
Oneida	Lake Tomahawk FD	Local	Fire	Interop
Oneida	Nokomis FD	Local	Fire	Interop
Oneida	Oneida Co EM	County	EM	Interop
Oneida	Oneida Co EMS	County	EMS	Interop
Oneida	Oneida Co Sheriff	County	Law	Interop
Oneida	Three Lakes FD	Local	Fire	Interop
Outagamie	Freedom PD	Local	Law	Interop
Outagamie	Hortonville PD	Local	Law	Interop
Outagamie	Outagamie Co Sheriff	County	Law	Interop
Ozaukee	Cedarburg EM	Local	EM	Interop
Ozaukee	Cedarburg FD	Local	Fire	Interop
Ozaukee	Cedarburg PD	Local	Law	Interop
Ozaukee	Mequon PD	Local	Law	Interop
Ozaukee	Ozaukee Co EM	County	EM	Interop
Ozaukee	Ozaukee Co Radio Services	County	Comm	Interop

County	WISCOM User Agency	Type	Service	User Type
Ozaukee	Ozaukee Co Sheriff	County	Law	Interop
Ozaukee	Port Washington FD	Local	Fire	Interop
Pepin	Pepin Co Sheriff	County	Law	Interop
Pierce	Army Corp of Engineers	Federal	Federal	Interop
Pierce	Clifton PD	Local	Law	Interop
Pierce	Ellsworth EMS	Local	EMS	Interop
Pierce	Ellsworth FD	Local	Fire	Interop
Pierce	Elmwood EMS	Local	EMS	Interop
Pierce	Elmwood FD	Local	Fire	Interop
Pierce	Pierce Co EM	County	EM	Interop
Pierce	Pierce Co Sheriff	County	Law	Interop
Pierce	Prescott EMS	Local	EMS	Interop
Pierce	Prescott FD	Local	Fire	Interop
Polk	Balsam Lake PD	Local	Law	Interop
Polk	Centuria PD	Local	Law	Interop
Polk	Frederic PD	Local	Law	Interop
Polk	Luck PD	Local	Law	Interop
Polk	Milltown PD	Local	Law	Interop
Polk	Polk Co Sheriff	County	Law	Interop
Portage	Plover PD	Local	Law	Interop
Portage	Portage Co EM	County	EM	Interop
Portage	Portage Co Sheriff	County	Law	Interop
Portage	Stevens Point PD	Local	Law	Interop
Price	Price Co EM	County	EM	Interop
Price	Price Co Sheriff	County	Law	Interop
Racine	Burlington PD	Local	Law	Interop
Racine	Mount Pleasant PD	Local	Law	Interop
Racine	Racine Co EM	County	EM	Interop
Racine	Racine Co Health Dept	County	Health	Interop
Racine	Racine Co Sheriff	County	Law	Interop
Racine	Racine FD	Local	Fire	Interop
Racine	Union Grove FD	Local	Fire	Interop
Racine	Waterford PD	Local	Law	Interop
Richland	Richland Center PD	Local	Law	Interop
Richland	Richland Co EM	County	EM	Interop
Richland	Richland Co Sheriff	County	Law	Interop
Rock	Beloit FD	Local	Fire	Interop
Rock	Beloit PD	Local	Law	Interop
Rock	Clinton FD	Local	Fire	Interop
Rock	Clinton PD	Local	Law	Interop
Rock	Edgerton DPW	Local	DPW	Interop
Rock	Edgerton FD	Local	Fire	Interop
Rock	Edgerton PD	Local	Law	Interop
Rock	Evansville PD	Local	Law	Interop
Rock	Fulton PD	Local	Law	Interop

County	WISCOM User Agency	Type	Service	User Type
Rock	Janesville FD	Local	Fire	Interop
Rock	Janesville PD	Local	Law	Interop
Rock	Mercy Hospital	Hospital	EMS	Interop
Rock	Milton FD	Local	Fire	Interop
Rock	Rock Co Comm Center	County	Comm	Interop
Rock	Rock Co EM	County	EM	Interop
Rock	Rock Co Sheriff	County	Law	Interop
Rock	Rock River Safety Patrol	Local	Boat	Interop
Rock	Town of Beloit FD	Local	Fire	Interop
Rock	Town of Milton PD	Local	Law	Interop
Rock	Town of Turtle FD	Local	Fire	Interop
Rock	Town of Turtle PD	Local	Law	Interop
Rusk	Rusk Co Sheriff	County	Law	Interop
Sauk	Baraboo District Ambulance Service	Local	EMS	Interop
Sauk	Baraboo FD	Local	Fire	Interop
Sauk	Baraboo PD	Local	Law	Interop
Sauk	Spring Green FD	Local	Fire	Interop
Sauk	Spring Green PD	Local	Law	Interop
Sawyer	Bass Lake FD	Local	Fire	Primary
Sawyer	Couderay FD	Local	Fire	Primary
Sawyer	Exeland FD	Local	Fire	Primary
Sawyer	Hayward FD	Local	Fire	Primary
Sawyer	Hayward PD	Local	Law	Primary
Sawyer	Lac Courte Oreilles FD	Local	Fire	Primary
Sawyer	Lac Courte Oreilles PD	Local	Law	Primary
Sawyer	Loretta Draper FD	Local	Fire	Primary
Sawyer	Radisson FD	Local	Fire	Primary
Sawyer	Round Lake FD	Local	Fire	Primary
Sawyer	Sawyer Co EMS	County	EMS	Primary
Sawyer	Sawyer Co Health Dept	County	Health	Primary
Sawyer	Sawyer Co Highway	County	DPW	Primary
Sawyer	Sawyer Co Sheriff	County	Law	Primary
Sawyer	Stone Lake FD	Local	Fire	Primary
Sawyer	Sand Lake FD	Local	Fire	Primary
Sawyer	Spider Lake FD	Local	Fire	Primary
Sawyer	Town of Hayward FD	Local	Fire	Primary
Sawyer	Town of Hayward PD	Local	Law	Primary
Sawyer	Winter FD	Local	Fire	Primary
Shawano	Gresham EM	Local	EM	Interop
Shawano	Shawano Ambulance Service	Local	EMS	Interop
Shawano	Shawano Co Sheriff	County	Law	Interop
Sheboygan	Haven FD	Local	Fire	Interop
Sheboygan	Random Lake FD	Local	Fire	Interop
Sheboygan	Sheboygan Co EM	County	EM	Interop
Sheboygan	Sheboygan Co Sheriff	County	Law	Interop

County	WISCOM User Agency	Type	Service	User Type
St Croix	Baldwin EMS	Local	EMS	Interop
St Croix	Hammond PD	Local	Law	Interop
St Croix	St Croix Co Comm Center	County	Comm	Interop
St Croix	St Croix Co EM	County	EM	Interop
Taylor	Gilman EMS	Local	EMS	Interop
Taylor	Gilman FD	Local	Fire	Interop
Taylor	Gilman PD	Local	Law	Primary
Taylor	Jump River FD	Local	Fire	Interop
Taylor	Lublin FD	Local	Fire	Interop
Taylor	Medford EMS	Local	EMS	Interop
Taylor	Medford FD	Local	Fire	Interop
Taylor	Medford PD	Local	Law	Primary
Taylor	Rib Lake EMS	Local	EMS	Interop
Taylor	Rib Lake FD	Local	Fire	Interop
Taylor	Rib Lake PD	Local	Law	Primary
Taylor	Stetsonville FD	Local	Fire	Interop
Taylor	Taylor Co Sheriff	County	Law	Primary
Taylor	Westboro FD	Local	Fire	Interop
Trempealeau	Arcadia EMS	Local	EMS	Interop
Trempealeau	Arcadia FD	Local	Fire	Interop
Trempealeau	Blair FD	Local	Fire	Interop
Trempealeau	Eleva FD	Local	Fire	Interop
Trempealeau	Ettrick FD	Local	Fire	Interop
Trempealeau	Galesville FD	Local	Fire	Interop
Trempealeau	Independence FD	Local	Fire	Interop
Trempealeau	Osseo EMS	Local	EMS	Interop
Trempealeau	Osseo FD	Local	Fire	Interop
Trempealeau	Osseo PD	Local	Law	Interop
Trempealeau	Pigeon Falls FD	Local	Fire	Interop
Trempealeau	Strum FD	Local	Fire	Interop
Trempealeau	Trempealeau Co EM	County	EM	Interop
Trempealeau	Trempealeau Co Sheriff	County	Law	Interop
Trempealeau	Trempealeau FD	Local	Fire	Interop
Trempealeau	Tri County EMS	Local	EMS	Interop
Trempealeau	Whitehall FD	Local	Fire	Interop
Tribal	Great Lakes Indian Fish & Wildlife	Tribal	Tribal	Primary
Vernon	Lafarge	Local		Interop
Vernon	Vernon Co EM	County	EM	Interop
Vernon	Vernon Co Sheriff	County	Law	Interop
Vilas	Boulder Junction PD	Local	Law	Interop
Vilas	Vilas Co EM	County	EM	Interop
Vilas	Vilas Co Sheriff	County	Law	Interop
Walworth	Darien FD	Local	Fire	Interop
Walworth	Delavan FD	Local	Fire	Interop
Walworth	Elkhorn FD	Local	Fire	Interop

County	WISCOM User Agency	Type	Service	User Type
Walworth	Fontana PD	Local	Law	Interop
Walworth	LaGrange FD	Local	Fire	Interop
Walworth	Sharon FD	Local	Fire	Interop
Walworth	Town of Linn FD	Local	Fire	Interop
Walworth	Walworth Co Sheriff	County	Law	Interop
Walworth	Whitewater FD	Local	Fire	Interop
Walworth	Whitewater PD	Local	Law	Interop
Washburn	Birchwood FD	Local	Fire	Interop
Washburn	Minong FD	Local	Fire	Interop
Washburn	Shell Lake FD	Local	Fire	Interop
Washburn	Washburn Co EM	County	EM	Interop
Washburn	Washburn Co Sheriff	County	Law	Interop
Washington	Addison DPW	Local	DPW	Interop
Washington	Allenton FD	Local	Fire	Interop
Washington	Boltonville FD	Local	Fire	Interop
Washington	Cedar Lake Boat Patrol	Local	Boat	Interop
Washington	Town of Erin DPW	Local	DPW	Interop
Washington	Fillmore FD	Local	Fire	Interop
Washington	Germantown DPW	Local	DPW	Interop
Washington	Germantown FD	Local	Fire	Interop
Washington	Germantown PD	Local	Law	Interop
Washington	Hartford DPW	Local	DPW	Interop
Washington	Hartford FD	Local	Fire	Interop
Washington	Hartford PD	Local	Law	Interop
Washington	Jackson FD	Local	Fire	Interop
Washington	Jackson PD	Local	Law	Interop
Washington	Kewaskum PD	Local	Law	Interop
Washington	Kewaukum DPW	Local	DPW	Interop
Washington	Kewaukum FD	Local	Fire	Interop
Washington	Kohlsville FD	Local	Fire	Interop
Washington	Lifestar EMS	Local	EMS	Primary
Washington	Newburg DPW	Local	DPW	Interop
Washington	Newburg FD	Local	Fire	Interop
Washington	Newburg PD	Local	Law	Interop
Washington	Town of Polk DPW	Local	DPW	Interop
Washington	Town of Polk PD	Local	Law	Interop
Washington	Richfield DPW	Local	DPW	Interop
Washington	Richfield FD	Local	Fire	Interop
Washington	Slinger DPW	Local	DPW	Interop
Washington	Slinger FD	Local	Fire	Interop
Washington	Slinger PD	Local	Law	Interop
Washington	St Lawrence FD	Local	Fire	Interop
Washington	Town of Hartford Boat Patrol	Local	Boat	Interop
Washington	Town of Hartford DPW	Local	DPW	Interop
Washington	Town of Jackson DPW	Local	DPW	Interop

County	WISCOM User Agency	Type	Service	User Type
Washington	Town of Kewaskum DPW	Local	DPW	Interop
Washington	Town of Trenton PD	Local	Law	Interop
Washington	Town of Trenton DPW	Local	DPW	Interop
Washington	Village of Jackson DPW	Local	DPW	Interop
Washington	Town of Wayne DPW	Local	DPW	Interop
Washington	Washington Co EM	County	EM	Interop
Washington	Washington Co Health	County	Health	Interop
Washington	Washington Co Highway	County	DPW	Interop
Washington	Washington Co Sheriff	County	Law	Interop
Washington	West Bend DPW	Local	DPW	Interop
Washington	West Bend FD	Local	Fire	Interop
Washington	West Bend PD	Local	Law	Interop
Waukesha	Brookfield FD	Local	Fire	Interop
Waukesha	Dousman FD	Local	Fire	Interop
Waukesha	Eagle FD	Local	Fire	Interop
Waukesha	Eagle PD	Local	Law	Interop
Waukesha	Flight for Life	Local	EMS	Interop
Waukesha	Lake Country FD	Local	Fire	Interop
Waukesha	Lisbon FD	Local	Fire	Interop
Waukesha	Menomonee Falls FD	Local	Fire	Interop
Waukesha	Mukwonago FD	Local	Fire	Interop
Waukesha	New Berlin FD	Local	Fire	Interop
Waukesha	Oconomowoc PD	Local	Law	Interop
Waukesha	Stone Bank FD	Local	Fire	Interop
Waukesha	Town of Delafield FD	Local	Fire	Interop
Waukesha	Vernon FD	Local	Fire	Interop
Waukesha	Waukesha Co Comm Center	County	Comm	Interop
Waukesha	Waukesha Co EM	County	EM	Interop
Waukesha	Waukesha Co Radio Services	County	Comm	Interop
Waukesha	Waukesha Co Sheriff	County	Law	Interop
Waukesha	Waukesha PD	Local	Law	Interop
Waupaca	Clintonville PD	Local	Law	Interop
Waupaca	New London PD	Local	Law	Interop
Waupaca	Waupaca Co Sheriff	County	Law	Interop
Waupaca	Waupaca EM	Local	EM	Interop
Waupaca	Waupaca PD	Local	Law	Interop
Waushara	Waushara Co Sheriff	County	Law	Interop
Winnebago	Omro PD	Local	Law	Interop
Winnebago	Oshkosh PD	Local	Law	Interop
Winnebago	Menasha PD	Local	Law	Interop
Winnebago	Winnebago Co EM	County	EM	Interop
Winnebago	Winnebago Co Sheriff	County	Law	Interop
Winnebago (IL)	South Beloit FD	Local	Fire	Interop
Wood	Cameron FD	Local	Fire	Interop

County	WISCOM User Agency	Type	Service	User Type
Wood	Marshfield FD	Local	Fire	Interop
Wood	Marshfield PD	Local	Law	Interop
Wood	Nekoosa PD	Local	Law	Interop
Wood	Pittsville FD	Local	Fire	Interop
Wood	Port Edwards FD	Local	Fire	Interop
Wood	Rock FD	Local	Fire	Interop
Wood	Wisconsin Rapids PD	Local	Law	Interop
Wood	Wood County EM	County	EM	Interop
X State	University of Wisconsin-La Crosse PD	State	Law	Interop
X State	University of Wisconsin-Madison PD	State	Law	Interop
X State	University of Wisconsin-Milwaukee PD	State	Law	Primary
X State	University of Wisconsin-Platteville PD	State	Law	Interop
X State	University of Wisconsin-River Falls PD	State	Law	Interop
X State	University of Wisconsin-Superior PD	State	Law	Interop
X State	WI Capitol Police	State	Law	Interop
X State	WI Dept of Administration - DET	State	Govt	Interop
X State	WI Dept of Ag Trade & Consumer Protection	State	Govt	Interop
X State	WI Dept of Corrections	State	Govt	Primary
X State	WI Dept of Health Services	State	Health	Primary
X State	WI Dept of Justice	State	Law	Primary
X State	WI Dept of Military Affairs	State	Govt	Primary
X State	WI Dept of Natural Resources	State	Govt	Interop
X State	WI Dept of Transportation	State	Govt	Primary
X State	WI Emergency Management	State	EM	Primary
X State	WI State Patrol	State	Law	Primary
Y Federal	Alcohol Tobacco & Firearms	Federal	Law	Primary
Y Federal	Drug Enforcement Administration	Federal	Law	Primary
Y Federal	National Park Service	Federal	Federal	Primary
Y Federal	US Coast Guard	Federal	Federal	Interop
Y Federal	US Fish & Wildlife Service	Federal	Federal	Interop
Y Federal	US Forest Service-Fire	Federal	Fire	Interop
Y Federal	US Forest Service-Law Enforcement	Federal	Law	Interop
Y Federal	US Marshals Service	Federal	Law	Primary
Z NGO	Aspirus Medevac	NGO	EMS	Primary
Z NGO	CN Railroad Police	NGO	Law	Primary
Z NGO	Lifelink	NGO	EMS	Primary
Z NGO	Medlink	NGO	EMS	Primary
Z NGO	North Memorial Ambulance Service	NGO	EMS	Primary
Z NGO	Spirit Air	NGO	EMS	Interop
Z NGO	Theda Star	NGO	EMS	Interop
Z NGO	Tri State Ambulance	NGO	EMS	Interop
Z NGO	UW Medflight	NGO	EMS	Interop
Z NGO	WI Disaster Medical Response Team MRC	NGO	EMS	Interop

Appendix B

WISCOM Usage Data

The following table shows how frequently agencies have utilized the WISCOM system over the last six months from December 20, 2015 to May 20, 2016. The system has been active with over 23,155,884 push-to-talk (PTT) transmissions on the radio. This represents the number of times a radio's PTT button was pressed.

County/Agency	Push-to-talks
Adams	3
Clark	191,238
Columbia	567,604
Crawford	25,008
Dane	846,465
Dodge	355,312
Door	83,671
Douglas	443,686
Dunn	391,283
Eau Claire	198,672
Florence	51,380
Fond du Lac	1,538,645
Forest	125,624
Grant	270,894
Green	168,810
Green Lake	108,390
Iowa	537,123
Iron	101,860
Jackson	259,999
Jefferson	611,456
Juneau	383,162
Kenosha	398,084
Kewaunee	143,678
La Crosse	287,623
Lafayette	99,387
Langlade	51,891
Lincoln	106,691
Manitowoc	242,366
Marathon	252,138
Marinette	520,224
Marquette	72,671
Menominee	649,009
Milwaukee	1,397,587
Monroe	450,262
Oconto	201,193
Oneida	48,652
Outagamie	497,662
Ozaukee	359
Pepin	31,047
Pierce	269,439
Polk	181,325
Portage	194,371

County/Agency	Push-to-talks
Price	55,285
Racine	364,218
Richland	7,955
Rock	761,327
Rusk	109,523
St. Croix	419,927
Sauk	1,118,270
Sawyer	1,198,154
Shawano	501,041
Sheboygan	233,774
Taylor	448,568
Trempealeau	534,551
Vernon	474
Vilas	23,704
Walworth	342,593
Washburn	55
Washington	81,170
Waukesha	9,789
Waupaca	21
Winnebago	171,032
Wood	8
Milwaukee County Transit System	23
Tribal GLIFWC	433
Out of State Agencies	281,484
Non-Governmental Organizations	24,217
Dept. of Transportation/State Patrol	354,588
Dept. of Natural Resources	3,842
Dept. of Justice	12,398
Dept. of Military Affairs	6,325
Dept. of Administration	196
Dept. of Health & Family Services	137,456
Dept. of Corrections	2,046,955
University of Wisconsin	310,455
DOJ/DATCP	445
Federal Law Enforcement	49,547
US Dept. of Justice	45,351
US Dept. of Treasury	4,574
US Dept. of Homeland Security	18
US Dept. of Agriculture	15,110
US Veteran's Administration	3,349
National Weather Service	18
System Gateway Devices	121,717

Appendix C

Alternative Communication Systems

The following table displays the alternative communications systems utilized by agencies in Wisconsin.

COUNTY	BAND	TYPE	MODULATION	COMMENTS	WISCOM SUBSYSTEM
ADAMS	VHF	CONVENTIONAL	ANALOG		NO
ASHLAND	VHF	CONVENTIONAL	ANALOG		NO
BARRON	VHF	CONVENTIONAL	LAW DIGITAL/FIRE AND EMS ANALOG		NO
BAYFIELD	VHF	CONVENTIONAL	ANALOG / P25 TRUNKING	MOVING TO WISCOM FROM EXISTING SYSTEM SOON	YES
BROWN	700 MHZ	TRUNKING	P25 DIGITAL		NO
BUFFALO	VHF	CONVENTIONAL	ANALOG		NO
BURNETT	VHF	CONVENTIONAL	ANALOG		NO
CALUMET	VHF	CONVENTIONAL	ANALOG		NO
CHIPPEWA	VHF	CONVENTIONAL	ANALOG		NO
CLARK	VHF	CONVENTIONAL	LAW DIGITAL/FIRE AND EMS ANALOG		NO
COLUMBIA	VHF	CONVENTIONAL	ANALOG		NO
CRAWFORD	VHF	CONVENTIONAL			
DANE	VHF	TRUNKING	ANALOG/P25 TRUNKING	PRESENTLY ON ANALOG, MOVING TO P25 DIGITAL TRUNKING FALL OF 2016: City of Madison operates on a 800 MHZ Smartnet System Presently	NO
DODGE	VHF	CONVENTIONAL	ANALOG		NO
DOOR	VHF	CONVENTIONAL	ANALOG		NO
DOUGLAS	VHF	TRUNKING	P25 DIGITAL	In the process of moving from Conventional to Digital Trunking	YES
DUNN	VHF	CONVENTIONAL/TRUNKING	ANALOG/P25 TRUNKING	DUSO on P25 Trunking	YES
EAU CLAIRE	VHF	CONVENTIONAL	ANALOG		NO
FLORENCE	VHF	CONVENTIONAL	ANALOG	PRESENTLY ON ANALOG, MOVING TO P25 DIGITAL TRUNKING FALL OF 2016	YES (MIGRATING SOON)
FOND DU LAC	VHF	CONVENTIONAL	ANALOG	County is VHF Conventional, City of Fond du Lac is P25 Trunking (WISCOM).	NO (Except City of Fond du Lac)
FOREST	VHF	CONVENTIONAL	LAW DIGITAL/FIRE AND EMS ANALOG		NO
GRANT	VHF	CONVENTIONAL	ANALOG		NO

GREEN	VHF	CONVENTIONAL	ANALOG	CURRENTLY LOOKING INTO POSSIBLE SOLUTIONS TO IMPROVE COVERAGE.	NO
GREEN LAKE	VHF	CONVENTIONAL	ANALOG		NO
IOWA	VHF	TRUNKING	P25 DIGITAL	INCLUDES HYBRID (CONVENTIONAL CHANNELS THAT FEED INTO THE WISCOM SYSTEM)	YES
IRON	VHF	CONVENTIONAL	LAW DIGITAL/FIRE AND EMS ANALOG		NO
JACKSON	VHF	CONVENTIONAL	ANALOG		NO
JEFFERSON	VHF	CONVENTIONAL	ANALOG		NO
JUNEAU	VHF	CONVENTIONAL	ANALOG	WISCOM SUB-SYSTEM REDESIGN IN PROGRESS. PLAN IS TO MIGRATE ONTO WISCOM IN FUTURE	YES
KENOSHA	VHF	CONVENTIONAL	ANALOG		NO
KEWAUNEE	VHF	TRUNKING	P25 DIGITAL		YES
LA CROSSE	VHF	CONVENTIONAL	ANALOG	CITY OF LACROSSE RECENTLY MIGRATED TO AN 800 MHZ P25 RADIO SYSTEM, LOCALLY OWNED AND OPERATED.	NO
LAFAYETTE	VHF	CONVENTIONAL	ANALOG		NO
LANGLADE	VHF	CONVENTIONAL	LAW DIGITAL/FIRE AND EMS ANALOG		NO
LINCOLN	VHF	CONVENTIONAL	LAW AND PW ON P25 DIGITAL, FIRE ANALOG		NO
MANITOWOC	800 MHF AND VHF	CONVENTIONAL/TRUNKING	LAW AND HIGHWAY ON TRUNKING, FIRE ON ANALOG		NO
MARATHON	VHF	CONVENTIONAL	LAW ON P25 DIGITAL, FIRE, EMS AND HWY ON ANALOG	SHERIFF DISPATCH IS ALSO ENCRYPTED FULL TIME	NO
MARINETTE	VHF	CONVENTIONAL	LAW ON P25 DIGITAL, FIRE, EMS AND HWY ON ANALOG		NO
MARQUETTE	VHF	CONVENTIONAL	ANALOG		NO
MENOMINEE	VHF	CONVENTIONAL	ANALOG		NO

MILWAUKEE	800 MHZ	TRUNKING	ANALOG, moving to P25	Migrating from a Motorola Smartnet System, to P25 Digital System, with a controller shared with Waukesha County. Note, City of Milwaukee is on a Harris Open Sky system.	NO
MONROE	VHF	Conventional	ANALOG		NO
OCONTO	VHF	Conventional	ANALOG		NO
ONEIDA	VHF	Conventional	LAW and EMS DIGITAL/FIRE ANALOG		NO
OUTAGAMIE	800 MHZ	TRUNKING	P25 DIGITAL	Combined system with Winnebago County	NO
OZAUKEE	800 MHZ	TRUNKING	Analog (EDACS)		NO
PEPIN	VHF	CONVENTIONAL	ANALOG		NO
PIERCE	VHF	CONVENTIONAL	LAW ON P25 DIGITAL, FIRE, EMS AND HWY ON ANALOG		NO
POLK	VHF	CONVENTIONAL	LAW ON P25 DIGITAL, FIRE, EMS AND HWY ON ANALOG		NO
PORTAGE	VHF	CONVENTIONAL	LAW ON P25 DIGITAL, FIRE, EMS AND HWY ON ANALOG		NO
PRICE	VHF	CONVENTIONAL	LAW ON P25 DIGITAL, FIRE, EMS AND HWY ON ANALOG		NO
RACINE	VHF and UHF	CONVENTIONAL	ANALOG	LAW is a mix of UHF and VHF, City of Racine is all VHF, Fire and EMS is a mix of UHF and VHF.	NO
RICHLAND	VHF	CONVENTIONAL	ANALOG		NO
ROCK	VHF	CONVENTIONAL	P25 DIGITAL for Dispatch Channels, tactical channels are analog		NO
RUSK	VHF	CONVENTIONAL	P25 DIGITAL for LAW, FIRE, EMS and HWY are Analog		NO
ST CROIX	VHF	CONVENTIONAL	ANALOG		NO
SAUK	VHF	CONVENTIONAL	ANALOG		NO
SAWYER	VHF	TRUNKING	P25 DIGITAL	SAWYER IS OPERATING ON BOTH THE WISCOM SYSTEM AND THE OLDER ANALOG SYSTEM DUE TO COVERAGE ISSUES ON THE EAST SIDE AND LACK OF TRUNKING RADIOS FOR USERS.	YES

SHAWANO	VHF	CONVENTIONAL	P25 DIGITAL FOR LAW; FIRE AND EMS ARE ANALOG		NO
SHEBOYGAN	800 MHZ	TRUNKING	ANALOG, moving to P25		NO
TAYLOR	VHF	TRUNKING	P25 DIGITAL		YES
TREMPEALEAU	VHF	CONVENTIONAL	ANALOG		NO
VERNON	VHF	CONVENTIONAL	ANALOG		NO
VILAS	VHF	CONVENTIONAL	P25 DIGITAL FOR LAW; FIRE AND EMS ARE ANALOG		NO
WALWORTH	UHF and 800 MHZ	CONVENTIONAL	ANALOG	Fire and EMS utilzie UHF, LAW Utilizes 800 mhz. Local Entities	NO
WASHBURN	VHF	CONVENTIONAL	ANALOG		NO
WASHINGTON	VHF and 800 MHZ	TRUNKING	P25 DIGITIAL	EXISTING P25 VHF Trunking System, in the process of adding an 800 mhz trunking overlay in urban areas (for in building coverage).	NO
WAUKESHA	800 MHZ	TRUNKING	ANALOG, moving to P25	EXISTING Motorola SMARTNET System, moving to P25 Digital system.	NO
WAUPACA	VHF	CONVENTIONAL	LAW ON P25 DIGITAL; FIRE, EMS AND HWY ON ANALOG		NO
WAUSHARA	VHF	CONVENTIONAL	ANALOG		NO
WINNEBAGO	800 MHZ	TRUNKING	P25 DIGITAL		NO
WOOD	VHF	CONVENTIONAL	ANALOG		NO
Wisconsin DNR	VHF	CONVENTIONAL	ANALOG	Existing Infrastructure	NO

Appendix D

WISCOM Daily Users

The following list shows the daily users who use WISCOM as their primary communications system.

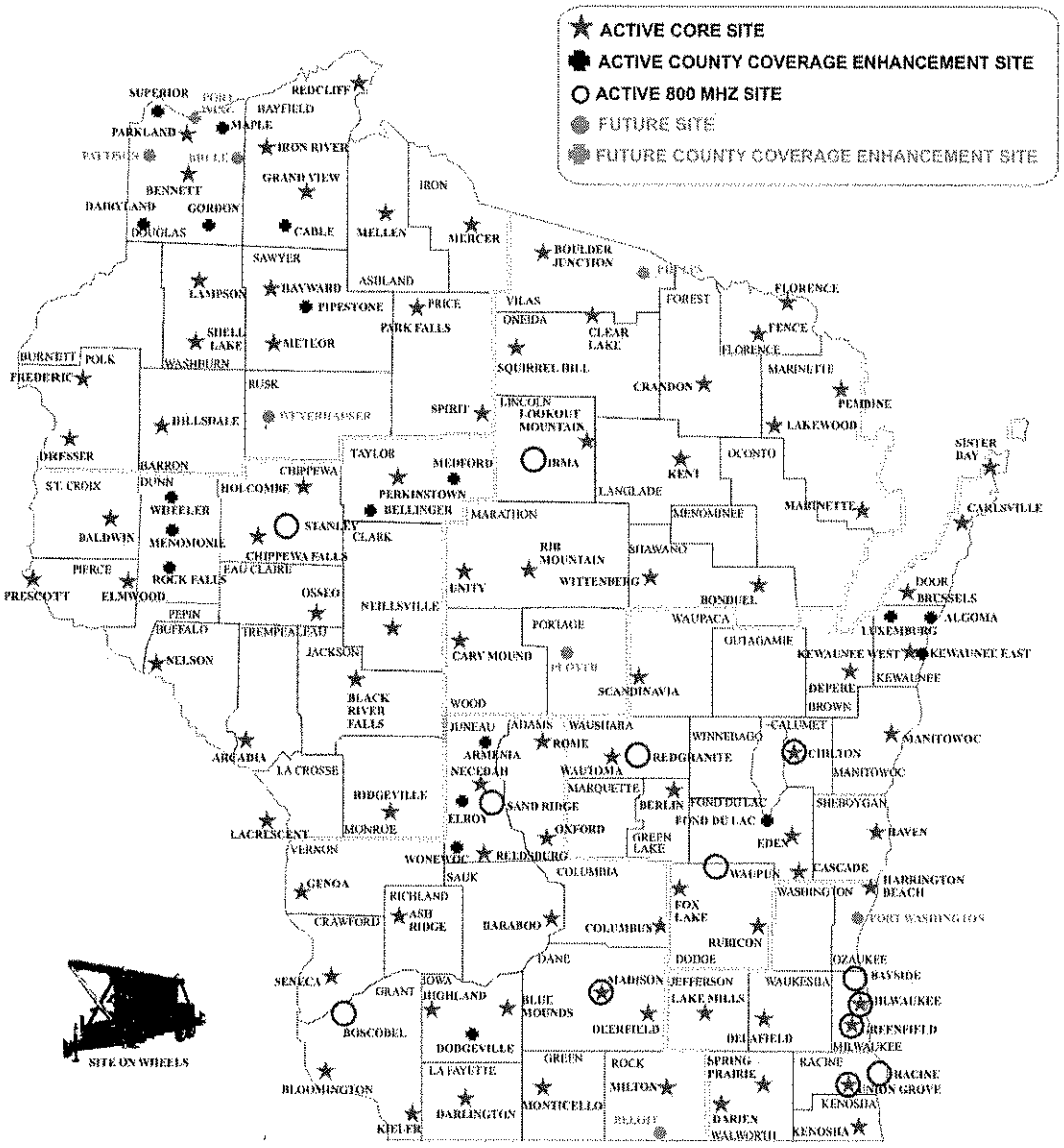
WISCOM Daily Users		
Alcohol Tobacco & Firearms	Fond du Lac Transit	National Park Service
Algoma EMS	Gilman PD	Necedah FD
Algoma FD	Gold Cross EMS	Necedah PD
Algoma PD	Great Lakes Indian Fish & Wildlife	New Lisbon EMS
Arena EMS	Greenfield FD	New Lisbon FD
Arena FD	Greenfield PD	New Lisbon PD
Arena PD	Hayward FD	North Fond du Lac PD
Armenia FD	Hayward PD	North Memorial Ambulance Service
Aspirus MedEvac	Highland EMS	North Memorial Ambulance Service
Avoca EMS	Highland FD	Radisson FD
Avoca FD	Highland PD	Rewey FD
Avoca PD	Hollandale FD	Rewey PD
Barneveld EMS	Iowa Co EM	Rib Lake PD
Barneveld FD	Iowa Co Sheriff	Ridgeway FD
Barneveld PD	Juneau Co EM	Ridgeway PD
Bass Lake FD	Juneau Co Sheriff	Round Lake FD
Blackhawk Lake Park	Kewaunee Co EM	Sand Creek PD
Boyceville PD	Kewaunee Co Highway	Sand Lake FD
Camp Douglas EMS	Kewaunee Co Sheriff	Sawyer Co EMS
Camp Douglas FD	Kewaunee EMS	Sawyer Co Health Dept
Carlton FD	Kewaunee FD	Sawyer Co Highway
Casco EMS	Kewaunee PD	Sawyer Co Sheriff
Casco FD	Lac Courte Oreilles FD	Spider Lake FD
CN Railroad Police	Lac Courte Oreilles PD	Stone Lake FD
Cobb FD	Lifelink	Superior FD
Colfax PD	Lifestar EMS	Superior PD
Couderay FD	Linden FD	Taylor Co Sheriff
Cutler FD	Linden PD	Tisch Mills FD
Dodgeville EMS	Loretta Draper FD	Town of Hayward FD
Dodgeville FD	Luxemburg EMS	Town of Hayward PD
Dodgeville PD	Luxemburg FD	Union Center FD
Douglas Co EM	Luxemburg PD	Union Center PD
Douglas Co Forestry	Lyndon Station FD	UW-Milwaukee PD
Douglas Co Highway	Lyndon Station PD	US Marshals Service
Drug Enforcement Administration	Mauston EMS	Wheeler PD
Dunn Co EM	Mauston PD	WI Dept of Corrections
Dunn Co Sheriff	Medford PD	WI Dept of Health Services
Elk Mound PD	Medlink	WI Dept of Justice
Elroy EMS	Menominee Co Transit	WI Dept of Military Affairs
Elroy FD	Mineral Point EMS	WI Dept of Transportation
Elroy PD	Mineral Point FD	WI Emergency Management
Exeland FD	Mineral Point PD	Winter FD
Fond du Lac FD	Montfort EMS	Wonewoc FD
Fond du Lac PD	Montpelier FD	Wonewoc PD

Appendix E

WISCOM Tower Sites

The following map displays the WISCOM tower sites as of April 2016. The WISCOM system currently consists of 116 tower sites, 627 repeaters (average of 5 channels per site), and 24,400 radios registered on the network.

WISCOM TOWER SITES



WISCONSIN
INTEROPERABILITY
SEAMLESS STATEWIDE PUBLIC SAFETY RADIO COMMUNICATIONS

SCOTT WALKER,
Governor

MATT JOSKI,
Chairperson
Interoperability Council

June 23, 2016

JUN 30 2016
Jt. Finance

Honorable Alberta Darling
Co-Chair, Joint Committee on Finance
P.O Box 7882
Madison, WI 53707-7882

Honorable John Nygren
Co-Chair, Joint Committee on Finance
P.O Box 8953
Madison, WI 53708

Dear Co-Chairs Darling and Nygren,

Attached is the report requested of the Wisconsin Interoperability Council pursuant to the adoption of WI ACT 55, section 9101. The responses were developed in coordination of the Wisconsin Interoperability Council, Wisconsin Department of Justice, Wisconsin Department of Transportation and Wisconsin Department of Military Affairs (Wisconsin Emergency Management), along with the assistance of TUSA Consulting Services and Carr, Riggs, and Ingram, LLC. This report will provide insight into the history of the Wisconsin Interoperable System for Communications (WISCOM) and the status of the system today.

Please feel free to contact me with any questions you may have.

Respectfully,

Sheriff Matt Joski, CPM
Chairperson
Wisconsin Interoperability Council
Joskim@kewauneeco.org
(920)388-7177

STATE OF WISCONSIN

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JOINT COMMITTEE ON FINANCE

MEMORANDUM

To: Members
Joint Committee on Finance

From: Senator Alberta Darling
Representative John Nygren

Date: June 30, 2016

Re: WIC Report to JFC

Attached is a report on the Wisconsin Interoperable System for Communication from the Wisconsin Interoperability Council, pursuant to Wisconsin Act 55, Section 9101.

This report is being provided for your information only. No action by the Committee is required. Please feel free to contact us if you have any questions.

Attachments

AD:JN:jm