

WISCONSIN   

WISCOM

• *America's Dairyland* •

Wisconsin System for Interoperable Communications (WISCOM)

System Training and Overview

July 19th 2011

Wausau, WI

Welcome

- Introductions
- Housekeeping

OJJA

Your Presenters

- David Spenner - OJA
- Jennifer Lord - OJA
- James Westover - OJA
- Carl Guse - WSP
- Kathleen Lordo - WSP



Event Timeline

- 0900-1030 Session 1
- 1030-1100 Break
- 1100-1200 Session 2
- 1200-1300 Lunch
- 1300-1430 Session 3
- 1430-1630 Demo's, Q&A, refreshments
- 1430-1530 Tower tour 1
- 1530-1630 Tower tour 2
 - Bus transport provided

Today's Purpose

- WISCOM History
- System overview
- User overview
- Technical overview
- Upcoming programs
- System demonstration and tower tour

Help Tables

- Have Questions?
- Need help with Applications?
- Want more information?
- **NECP Goal 2 completion**

See us during breaks or after the session for
1-on-1 assistance

What is the NECP Goal 2 Table?

- DHS/OEC must report progress on improving interoperability to validate continued funding by September 2011
- Goal 2 captures a snapshot of capability and performance for agencies within a county
- Web based – we will help you input your data today

System Demo & Display

- Radios available for live use
- Static equipment display
 - EFJ console
 - Control station
 - Gateway equipment
 - Portable radio
- Network management display
 - Watch the system work on NMS

System Governance

OJJA

What Made WISCOM Happen?

- First...
 - Federal Engineering Study of 2004/2005
 - Strategic Goals adopted by IC in 2005
 - Goals revalidated by stakeholders in 2006

What Made WISCOM Happen?

- Then...
 - SCIP Goals established in 2007
 - PSIC funding based on SCIP, late 2007
 - SSMG established 1st quarter 2008
 - DOT, DNR and OJA collaboration with SSMG to implement project since then

Statewide System Management Group

- History
 - Inaugural Meeting and Election of SSMG Officers March 5, 2008 in Stevens Point
 - Bylaws established July 21, 2009 in Madison
 - SSMG and OJA work to gain MOU's for WISCOM funding, 9/2008-1/2009
 - Administrative Manual adopted March 24, 2011
 - Defines users, process and protocols

Statewide System Management Group

- Made up of 23 public safety executives
- Representatives from local, county, state, tribal and federal agencies
- Provides checks and balances...no one entity controls system
- Ensures system meets needs of ALL public safety users

WISCOM Management

- SSMG is responsible for oversight of the WISCOM Administrative Manual
 - Governance
 - Operations
 - Mission support

WISCOM Management

- System Administration
 - OJA handles user applications, administration and training
 - WSP's Bureau of Public Security and Communications (BPSC) handles system installation, maintenance and user administration
 - Both agencies work in concert to provide front line support to system users

System Overview

OJJA

What is WISCOM?

- Statewide VHF Trunked Radio System
 - EF Johnson RF infrastructure
 - APCO Project 25 (P25) CAI standard
 - 80 sites planned
 - 95% mobile radio coverage (50w)
- Allows local, regional or statewide access
- Supports up to four (4) conversations per site
 - Enhances interoperability
 - Provides rapid scalability

What is WISCOM?

- Meets FCC narrowband requirements
 - Mandatory after 12/31/2012 (next year!)
- Provides many options
 - Local or wide area coverage
 - Statewide, regional and local interoperable talkgroups
 - Agency-specific talkgroups (fee-based)
- System support staff
 - Radio programming/template support
 - Basic technical support
 - End user and Train-the-Trainer training

What is WISCOM?

- Open standards system
 - Non-proprietary technology
 - Radios may be used from any authorized vendor
- Uses existing infrastructure
 - Statewide microwave and fiber network
 - State agency tower sites

What is WISCOM?

- Robust system design
 - No master trunking controller to fail
 - Site trunking if WAN access is lost
 - Seamless roaming statewide
 - Allows interconnection into other P25 trunking systems
- Room for expansion
 - Existing core sites support additional channels
 - New sites can be built into system
 - Supports encryption

What Can It Do?

- WISCOM exists to serve
 - Can be used for local or wide-area communications
 - Can be tied into bordering state systems
 - Integrated capability not found elsewhere
 - Federal agencies
 - National Guard/WEM/State EOC, Statewide Traffic Operations Center
 - Creates interoperability among participating PSAPs (no charge to every county)

What Can it Do?

- Statewide radio communication with staff
 - Prisoner transports
 - Travel for training or mutual aid (MABAS, EPS etc.)
- Option to replace aging local systems
 - Limited infrastructure to maintain
 - Primary sites maintained by state
 - Already meets narrowband mandate

Daily Use

- What does the system do for a daily user?
 - Shares infrastructure costs
 - Provides participation on a system that is defined as a “high priority system” of critical infrastructure.

Daily Use

- What does the system do for a daily user?
 - Be a partner with others who desire to migrate to new emerging technologies in a collaborative fashion.
 - Fully integrated with a next generation system supporting true interoperable voice communications.

Factory Acceptance Testing October 2010



Radios used for FAT

- Motorola XTS5000
- Tait TP9100
- EFJ 5100ES
- Kenwood TK-5210

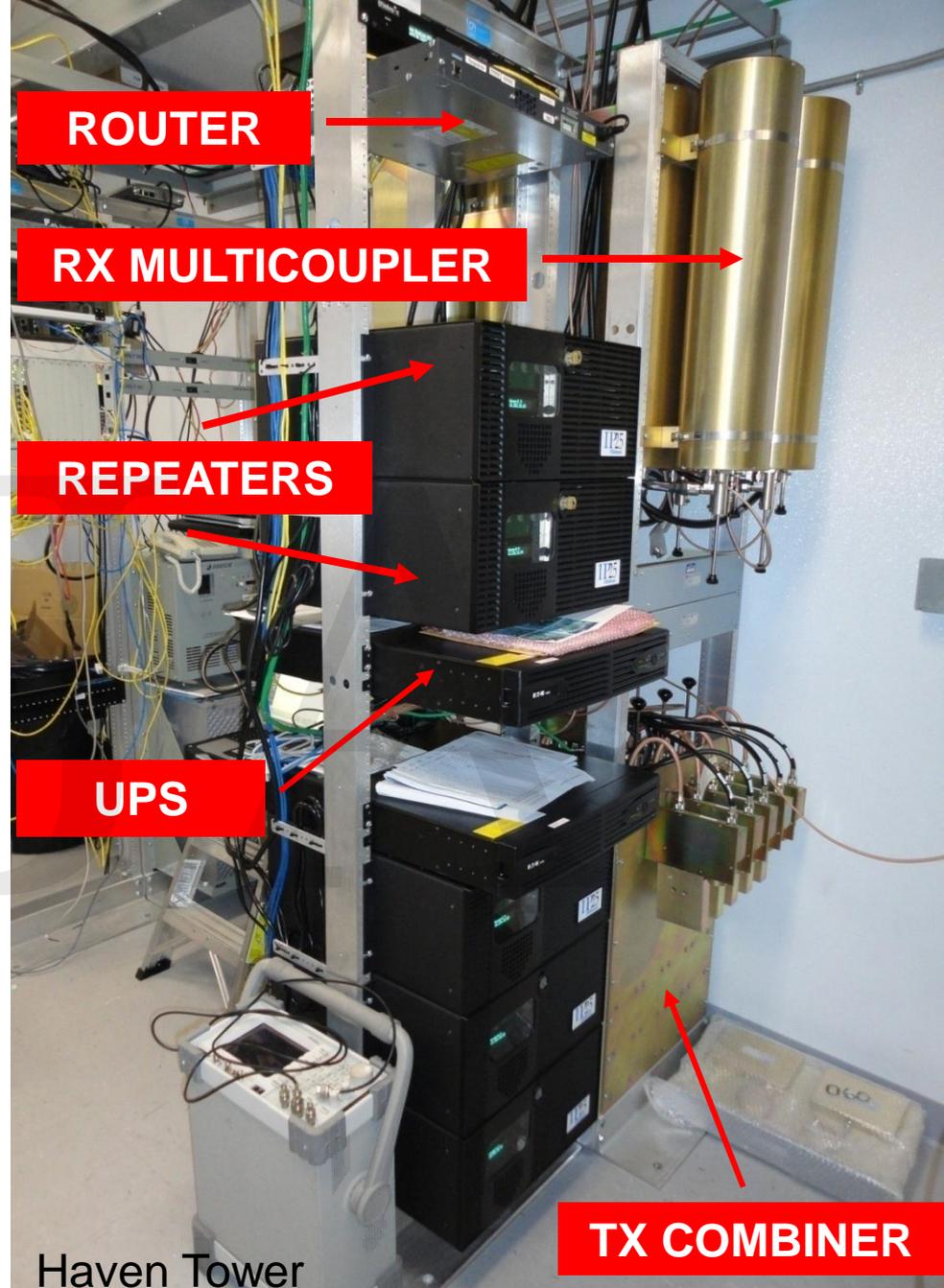


Current Usage

- As of 7/14/2011
 - 1,247 subscriber units enabled on system
 - 50+ agency applications processed
 - Users across the state and Minnesota
 - Federal, state and local users

Site Overview

- Microwave or fiber
- 5 trunking repeaters
 - 1 control channel
 - 4 voice channels
- Room for expansion
 - Additional repeaters be added



Site on Wheels (SOW)

- In bid process
- 4 channel WISCOM site
- VHF/800 mutual aid repeaters
- System backhaul/connectivity to other sites is TBD

User Overview

OJJA

User Levels

- No-cost access
 - Level 1 Interoperability
 - Level 2 Travel/Itinerant
- Fee-based access
 - Level 3 Daily use
 - Level 4 Affiliated Subsystem
 - Level 5 Integrated build-out
 - Level 6 Data (future)

Level 1

- Interoperability and Mutual Aid
- Statewide Tactical Talkgroups
- Regional Tactical Talkgroups
- County-wide Interoperability Talkgroup
 - xxCOM
- This level of usage is not subject to fees
- Requires submittal of a standard application

Level 2

- Travel and Itinerant use
 - Includes Level 1
 - County-specific Statewide Travel Talkgroup
 - xxTRVL
 - This level of usage is not subject to fees
 - Requires submittal of a standard application

Level 3

- Daily Use/Dispatch

- Includes Levels 1 and 2
- Agency-specific talkgroups permitted
- Use of WISCOM for daily mission critical communications and/or dispatching
- Subject to potential (2011) \$50/device/year charge - WAIVED
- Requires submittal of a standard application and a participation plan

Level 4

- Affiliated Sub System
 - Includes Levels 1 and 2
 - Agency-specific talkgroups permitted
 - Integrate stand-alone system into WISCOM via ISSI or gateways
 - Subject to potential charge
 - Requires submittal of a standard application and a participation plan

Level 5

- Integrated Build-out

- Includes Levels 1 and 2
- Agency-specific talkgroups permitted
- Add infrastructure and/or hardware to WISCOM to build-out coverage in a jurisdiction
- Subject to potential (2011) \$50/device/year charge - WAIVED
- Requires submittal of a standard application and a participation plan

Level 6

- Data
 - Not yet available
 - Indicate in participation plans and/or applications any interest in this level of service in the future

User Types

- Open to many Disciplines
 - Public Safety (Law/Fire/EMS/EM)
 - Federal/Military
 - Other governmental units
 - Sponsored NGO's

Talkgroup Structure

- Interoperability
 - Statewide (STAC1 through STAC8)
 - Regional Interop (RTACxx)
 - County Interop (xxCOM)

- No encryption allowed

Talkgroup Structure

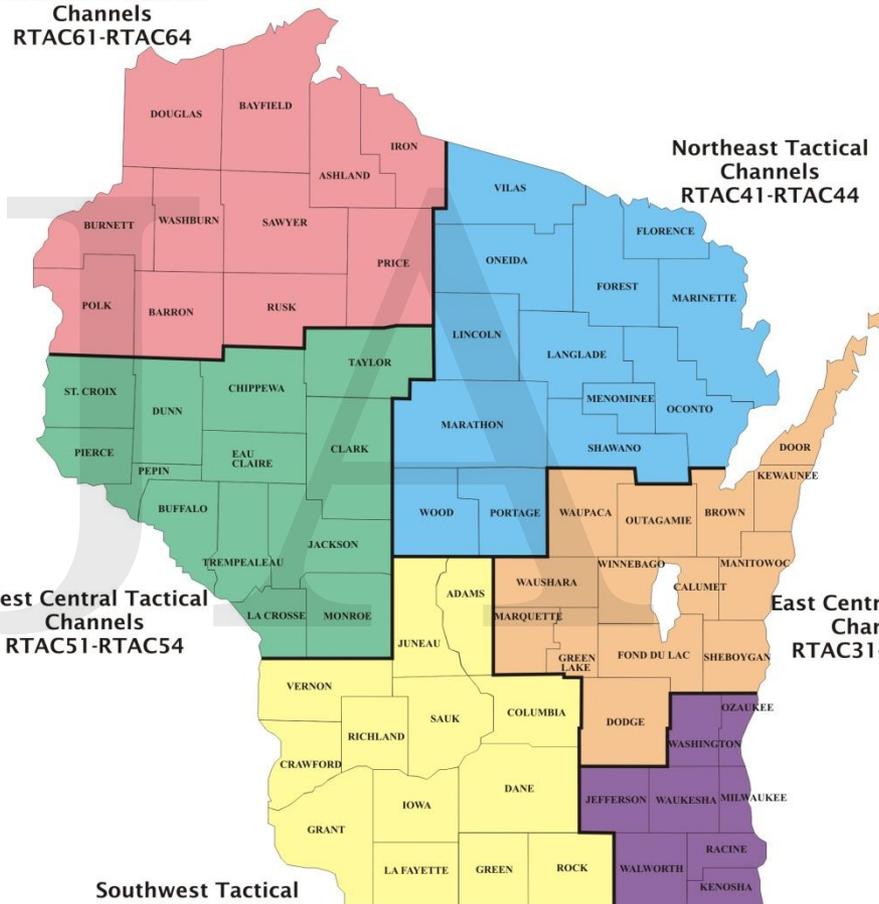
- Travel/Itinerant
 - County Travel (xxTRVL)
 - No encryption allowed
- Level 3+ Daily User
 - Your agency talkgroups
- Future
 - County Scan (xxSCAN)

Regional

- RTACx1 - RTACx4
– “x” is region #
- Mirrors HS/WEM regions
- Allows for region
- No local channel

WISCOM REGIONAL TALKGROUPS

Northwest Tactical Channels
RTAC61-RTAC64



P25 Unit ID Plan

- Identification number programmed into P25 digital radios.
- Logical plan for assignment of unique radio identifiers to all potential P25 digital radios in use by public safety agencies in Wisconsin.
- Plan eliminates possibility of duplicating a radio ID, which causes operational issues in a digital trunking system environment.

Unit ID Format

A	B	C	D	E	F	G
COUNTY CODE		PREFIX		UNIT		
01-99		1-9		0001-9999		

See packet for detailed information on the P25 ID plan

User Application

OJJA

interop.wi.gov

Wisconsin Interoperability Initiative - Windows Internet Explorer

http://interop.wi.gov/

Wisconsin Interoperability Initiative

WISCONSIN INTEROPERABILITY

CREATING SEAMLESS STATEWIDE PUBLIC SAFETY RADIO COMMUNICATIONS

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Need Help Getting a Local Interoperability Project Going?

Ask the [State Interoperability Coordinator](#) for help.

Upcoming Events & Training

Day	Event
3/10/11	Southwest SCIP Implementation Council
3/16/11	East Central SCIP Council
3/23/11	Interoperability Symposium
5/4/11	NW SCIP Implementation Council
5/12/11	Southwest SCIP Implementation Council
7/14/11	Southwest SCIP Implementation Council

Resources Quick Links

- [Apply for WISCOM](#)
- [State Plan \(SCIP\)](#)
- [All Documents](#)
- [National Emergency Communications Plan](#)

WISCOM:

- Leverages existing radio towers and other infrastructure, resulting in less initial cost.
- Does not use proprietary technology - it will be flexible - working with the wide variety of local systems currently operating in the state.
- Shares a statewide infrastructure that will result in long-term cost-savings for everyone. Communities are already spending millions of dollars on systems that do not allow interoperability. As communities replace their aging local systems, they will be able to leverage the state backbone, sharing infrastructure costs and avoiding costly duplication of equipment. Communities can then build out additional local coverage and capacity to meet their needs when they are ready.
- Will be managed by the Statewide System Management Group (SSMG) - including public safety executives from federal, tribal, state, county and local law enforcement, fire, EMS and emergency management disciplines - ensuring that the WISCOM project has input from a variety of potential users and meets the needs of the entire public safety community.
- Is supported by the Wisconsin State Fire Chiefs Association and the Wisconsin Chiefs of Police Association.

Want to subscribe to WISCOM?

Details and relevant documents are on the [WISCOM subscription page](#).

Want to obtain system key and programming information for WISCOM?

Details and relevant documents are on the [WISCOM Programming Keys](#) page.

Want P25 Radio ID Plan information? Check the [MFCG page](#).

Wisconsin Interoperability Initiative - WISCOM Available for Usage Testing - Windows Internet Explorer

http://interop.wi.gov/subcategory.asp?linksubcatid=3477&linkcatid=3582&linkid=1621&locid=166

Wisconsin Interoperability Initiative - WISCOM Availa...

There are no fees associated with WISCOM usage for Levels 1 and 2. Agencies must register their local subscriber equipment (mobile, portable and base radios) via this application process. Local agencies are responsible for procuring compatible subscriber equipment.

Questions about WISCOM training, governance and funding may be directed to OJAInteroperability@wi.gov.

Questions about equipment programming and compatibility may be directed to WSP-BPSC System Administrator wiscomtech@dot.wi.gov.

DOWNLOADS

- [Application Form Instructions](#) (PDF)
- [User Application Levels 1 & 2 Form Section 1 & 2](#) (Excel 2007 document)
- [User Application Levels 1 & 2 Form Section 3](#) (PDF)
- [P25 Unit ID Plan](#)

Here are some of the agencies currently participating in WISCOM testing:

Page 1

WISCONSIN INTEROPERABLE SYSTEM FOR COMMUNICATIONS (WISCOM) USER APPLICATION

Section 1:

1.1 Application: Select One Initial Update

1.2 User Level: Select All That Apply

- Level 1 Interoperability/Mutual Aid Level 4 Affiliated Sub System
 Level 2 Itinerant/Travel Level 5 Integrated Buildout
 Level 3 Daily Use/Dispatch Level 6 Data Use (future)

1.3 Requested Implementation Date: _____

1.4 Agency Information (This form is for public safety and public service agencies only.)

Agency Name: _____

Address: _____

City: _____ State: _____ Zip: _____

County: _____

1.5 Agency Type: Select One Public Safety Public Service

1.6 Agency Class: Select One

- Federal County Tribal
 State Local Other (Explain) _____

1.7 Agency Contact Information

Contact Name: _____

Contact Phone: _____

Contact E-mail: _____

1.8 Agency Eligibility: Is your agency an eligible agency as defined by [FCC Section 90.20 Public Safety Pool](#)?

- Yes No (If no, complete 1.9)

**WISCONSIN INTEROPERABLE SYSTEM FOR COMMUNICATIONS (WISCOM)
USER APPLICATION**

Page 2

Section 1 (continued):

1.9 Agency Sponsor: If answering "No" to Question 1.8, you must have a Sponsoring Agency that is a WISCOM Participating Agency. Please include a letter from your Sponsoring Agency with this application.

Sponsoring Agency Name: _____

Contact Person: _____

Contact Phone: _____

Contact E-mail: _____

1.10 Radio Service Provider Information

Service Provider Name: _____

Contact Person: _____

Contact Phone: _____

Contact E-mail: _____

1.11 Talkgroup Requests (Select as many as apply.)

- | | |
|---|--|
| <input type="checkbox"/> Statewide Tactical Channels | STAC1 - STAC8 |
| <input type="checkbox"/> Regional Tactical Channels | RTAC11 - RTAC14 (Southwest)
RTAC21 - RTAC24 (Southeast)
RTAC31 - RTAC34 (East Central)
RTAC41 - RTAC44 (Northeast)
RTAC51 - RTAC54 (West Central)
RTAC61 - RTAC64 (Northwest) |
| <input type="checkbox"/> County-wide Interoperability Channel | xxCOM (xx = county code) |
| <input type="checkbox"/> Statewide Travel Channel for County | xxTRVL (xx = county code) |
| <input type="checkbox"/> Agency Specific Talkgroups | (User Levels 3 - 6 only) |

**WISCONSIN INTEROPERABLE SYSTEM FOR COMMUNICATIONS (WISCOM)
USER APPLICATION FOR LEVELS 1 & 2**

Page 4

Section 3:

3.1 Agency Agreement Page Requesting WISCOM Participation

The agency submitting this application agrees to abide by the following:

- To be familiar with and comply with all applicable rules and regulations of the Federal Communications Commission (FCC).
- To comply with all rules, regulations, and directives of the Statewide System Management Group (SSMG) and the State of Wisconsin, who operate and manage the Wisconsin System for Interoperable Communications (WISCOM).
- To provide security for the radio equipment, to prevent operation by unauthorized personnel, and to properly train authorized agency personnel in proper radio procedure.
- To comply with all technical standards and to purchase and operate on WISCOM only equipment that has been designed and approved by this process, the SSMG, and the State of Wisconsin. Agencies may reallocate an authorized ID into a new radio without updating this application, providing the original radio is decommissioned.
- To update your radio fleet upon our request by submitting an updated application.
- To report all conflicts of usage and maintenance concerns in writing to system administrators and the chairperson of the SSMG in a timely manner.
- To report any outages of WISCOM to the WSP-BPSC System Administrator in a timely manner.
- To provide proper maintenance of agency-owned communication equipment utilized on the WISCOM system.
- To promote and apply proper radio discipline and NIMS-compliant standards for interoperable channel communications on WISCOM. WISCOM is intended for communication appropriate to the organization's function/mission. Improper usage and/or communication on WISCOM shall be cause for revoking the participation of an organization.

Print Agency Chief Executive Name: _____

Title: _____

Signature: _____

Date: _____

Internal Use Only: Application Number _____

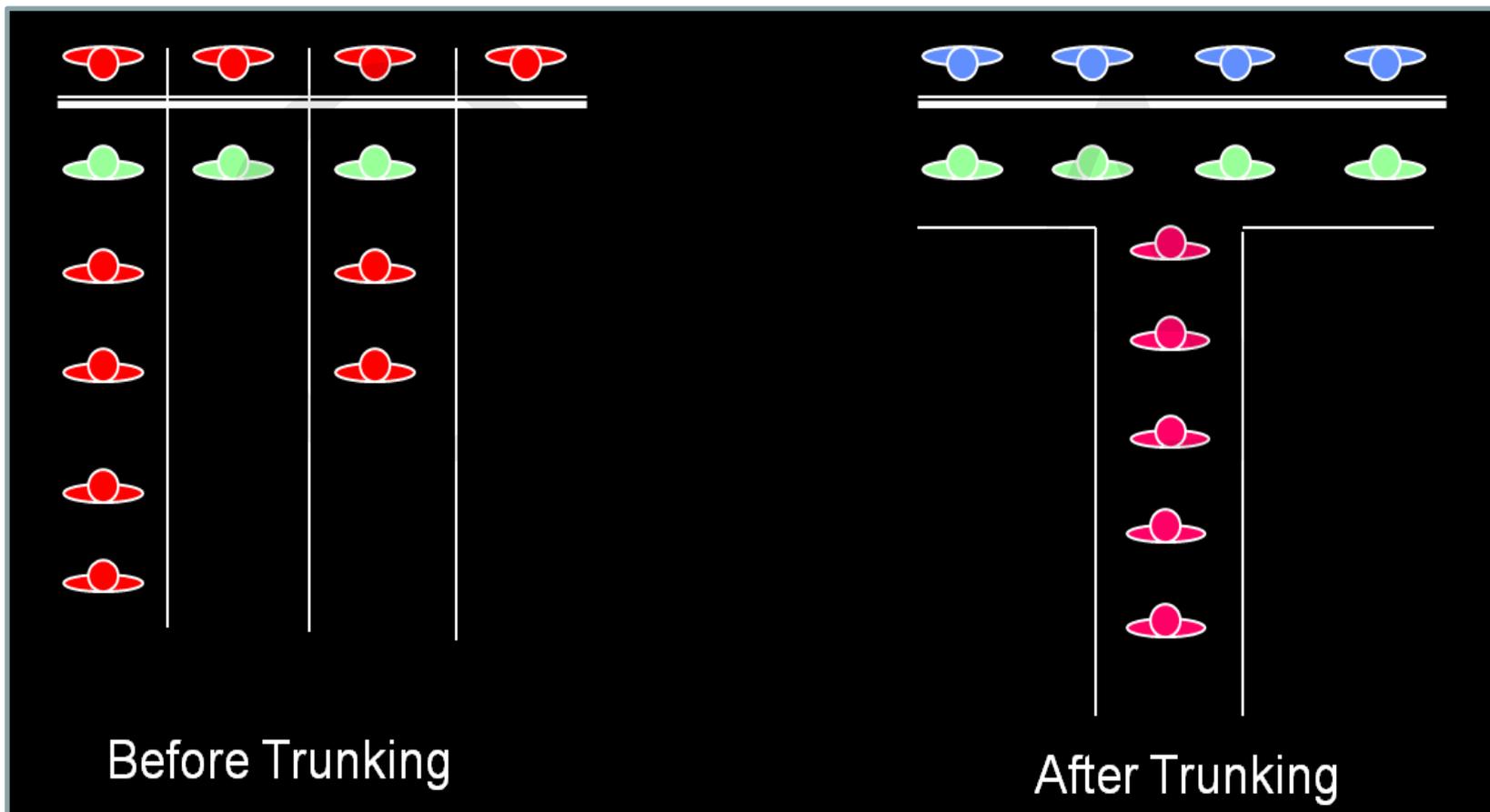
Technical Overview

OJJA

What is Trunking?

- Trunked radio systems are complex, computer-controlled radio systems
- All users share the same ‘pool’ of available radio channels rather than a dedicated channel for each group of users
- Radio units are allocated a channel only for the duration of a voice call
- Resources are allocated automatically, on demand

Conventional vs. Trunking



Advantages

- A greater number of users can be accommodated using a smaller number of channels
- Infrastructure equipment such as towers, repeaters and microwave connections can be shared for better coverage
- Agency autonomy is maintained while sharing resources and costs

Advantages

- Talkgroups can be utilized to allow specialized groups in an agency to have private communications, and encryption can be enabled for maximum security
- Trunking allows a large geographical area to use the same interoperability talkgroups
- All units programmed with a particular talkgroup will hear radio traffic on that channel

Using WISCOM

- When the radio is first placed onto the WISCOM system:
 - SU scans all control channels to find active site
 - SU transmits data packet to system
 - If a valid SU, the system allows SU to access system
 - If an invalid SU, the system refuses to allow registration of radio

Using WISCOM

- When in range of a WISCOM site:
 - SU will display a Received Signal Strength Indication (RSSI)
 - RSSI can be displayed as bars or a number depending on SU vendor and programming
 - RSSI value is based on how well SU can hear the site control channel

Using WISCOM

- Radio must be in range of a tower
- Once in range, radio will register and show a received signal

RSSI display

(More bars = better signal)

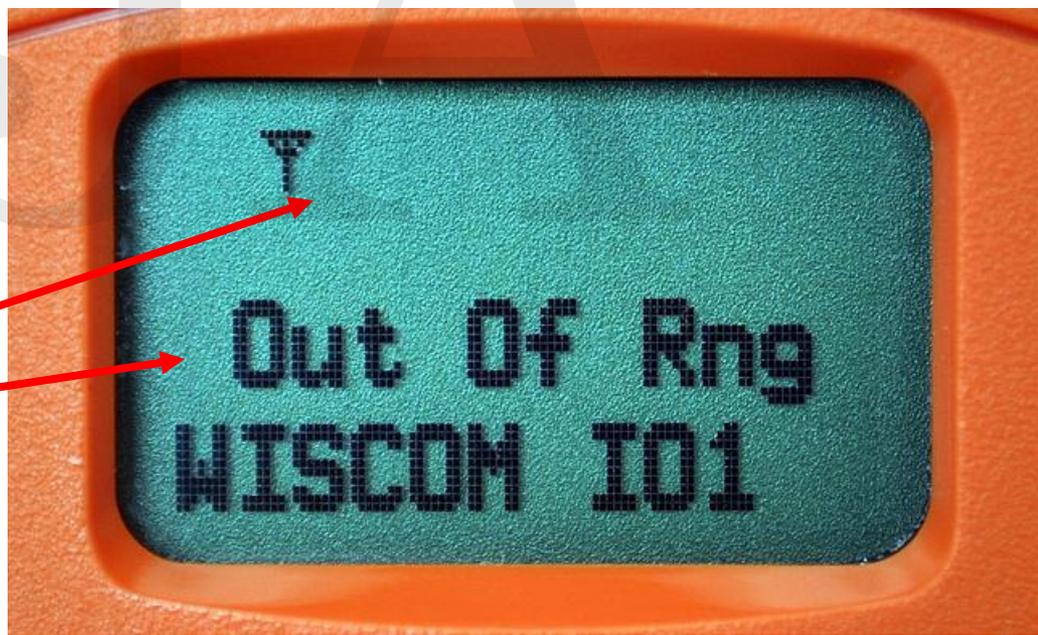


Using WISCOM

- When radio is out of range of system, no communications will occur (RX or TX)
- Radio will indicate
 - Display message
 - Audible tone?

Out of Range indication (EFJ)

No RSSI bars displayed



Using WISCOM

- If radio ID is not enabled in system, the radio can not register with system
- Radio will indicate
 - Display message
 - Audible tone?

Registration Refused indication (EFJ)



Using WISCOM

- If radio is set to invalid talkgroup, the system will not allow affiliation
- Radio will indicate
 - Display message
 - Audible tone?



Affiliation Refused indication (EFJ)

Transmitting on WISCOM

- What the radio does when PTT is depressed:
 - SU sends data packet to system
 - System verifies that SU is authorized
 - System returns a data packet to SU granting it access to system on selected talkgroup
- This process is a “channel grant” and happens in ~350 milliseconds

Transmitting on WISCOM

- What you notice when PTT is depressed:
 - Upon channel grant, the radio chirps indicating the talk path is open
 - Transmit your message and un-key
- You must wait for the talk permit tones before speaking or the message will be cut off
- The TX light will come on steady when the talk path is open

WISCOM Demo

- Come to the radio demo table and see this process take place
- Use a radio on WISCOM
- Watch the SU registration and affiliation process on the NMS display
- Get any questions answered

- We are here to help!

Radio Programming

OJJA

Programming Agreement

- Any person who will program WISCOM into subscriber units is required to sign agreement
- Signed agreement required per person, not per shop or agency
- Requires endorsement of a user agency
- Agreement kept on file with system administration
- Non-transferrable authorization

Windows Internet Explorer
http://interop.wi.gov/

WISCONSIN INTEROPERABILITY

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- Governance
- State Plan (SCIP)
- Regional Councils
- WISCOM**
- Funding
- Calendar
- Resources



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Want P25 Radio ID Plan information? Check the [MFCG page](#).

Instructions for Access to WISCOM Programming Keys (For Radio Technicians/Programmers)

This page provides guidance for radio technicians who require access to the WISCOM programming key(s). Approval is for an individual technician who must have the endorsement of his or her employer/company. Additionally, an endorsement is required from a public safety agency who intends to use your programming services.

Here are some key clauses of the agreement:

- The radio program security key of any manufacturer shall not be provided or divulged for any reason to persons other than those who have been authorized by the Statewide System Management Group (SSMG) through this agreement.
- Only radios of specifically authorized agencies that have completed an application and Memorandum of Understanding with the system administration shall be programmed or otherwise included in the system.
- No radio shall be programmed, or program modified, except for those authorized by this agreement.
- No radio ID shall be programmed into a radio unless authorized to do so. No radio ID shall be duplicated in the WISCOM system. All radio ID's must fall within the parameters of the WISCOM Interoperability Code and ID Plan.
- No talkgroup shall be programmed into a radio unless authorized to do so.
- Each agency and its designees shall be responsible for the integrity of the system key, and any computer equipment on which the key and associated programs reside.
- No modifications will be performed to WISCOM with regard to setup and operating parameters without the expressed authorization of the system manager and/or his/her designee.
- As an authorized programmer, the signatory agrees to abide by all policies and procedures of the Wisconsin Interoperable System for Communications, the SSMG, and the Interoperability Council (IC).

» Download the [WISCOM programming security agreement](#) (Word document).

The form should be completed, signed, scanned as a pdf and emailed to wiscomtech@dot.wi.gov

WISCOM (Wisconsin Interoperable System for Communications) Programming Security Agreement

This agreement is between _____ a technician and/or programmer for _____
(company or agency name) and the Wisconsin Interoperable System for Communications (WISCOM)

Key(s) being requested: _____

Wisconsin Interoperable System for Communications programming data and keys are by nature of their use in the public safety environment, sensitive, and in need of protection from revelation or dissemination to those not authorized to possess them. Users or service personnel not specifically authorized are not permitted to program or otherwise modify radios, or any aspect of WISCOM in anyway.

The following conditions apply to any security key or radio program developed for use on any piece of equipment in WISCOM:

1. The radio program security key of any manufacturer shall not be provided or divulged for any reason to persons other than those who have been authorized by the Statewide System Management Group (SSMG) through this agreement.
2. Only radios of specifically authorized agencies that have completed an application and Memorandum of Understanding with the system administration shall be programmed or otherwise included in the system.
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7. No modifications will be performed to WISCOM with regard to setup and operating parameters without the expressed authorization of the system manager and/or his/her designee.
8. As an authorized programmer, the signatory agrees to abide by all policies and procedures of the Wisconsin Interoperable System for Communications, the SSMG, and the Interoperability Council (IC).

It is understood that the integrity of the system is paramount to the safety of the citizens of Wisconsin and the public safety responders responsible for ensuring that safety. For that reason, all signatories of this agreement shall not take any action that would in any way detrimentally affect the system, or those affected by the system.

It is understood that programming keys are the property of WISCOM and that violation of this agreement could cause the employment dismissal and possible prosecution of any individual(s) responsible for causing a security breach, or a condition that could be detrimental to the system and/or its security. Individuals could include both the signatories of this document, and those involved in violations of the document. WISCOM reserves the right

• Page 2

Version 1.0 2011

to conduct a background check on any individual. Applicant shall provide documentation of applicable certification and/or training.

I, the Agency Authorized Manager, have read, understand and agree to the above guidelines and signify agency agreement to timely report the severance of the Technician's employment. I will report to WISCOM Administrators at wiscomtech@dot.wi.gov any compromise of the proprietary information or violation of this agreement by my agency, the technician or other agency/technicians/parties that comes to my attention.

I, the technician, have read, understand and agree to the above guidelines for access and use of WISCOM software, software system keys and facilities, and I agree to maintain the integrity and security of any proprietary information in my custody as it pertains to the system. I attest that I have attended factory training and am certified to program trunking subscribers. I understand that I am obligated to attend any mandatory WISCOM training that pertains to programming trunking subscribers on the WISCOM system. I will use this information only through my current employment with the above mentioned company/agency and will obtain new approval if I change agency or employer. I will report to WISCOM Administrators at wiscomtech@dot.wi.gov any compromise of the proprietary information or violation of this agreement that comes to my attention. I agree to supply proof of attending radio manufacturer P25 trunking programming training upon request.

Technician/Programmer Signature		Date
Technician/Programmer Name (Printed)		
Date of Birth: _____		
E-mail Address: _____		Phone Number: _____
Street Address: _____		
City, State, Zip: _____		

Authorized Agency Manager Signature _____ Date _____

This authorization is necessary for public safety needs and requires approval of this authorization.		
Public Safety Official's Signature (for whose agency you require this key)		Date
Agency Name _____	Title _____	Phone _____

WISCOM Approval Signature _____ Date _____

Date Processed: _____	Keys Issued: _____	Initials: _____
-----------------------	--------------------	-----------------

System Key

- WISCOM will not provide system key without programming agreement
- System key is proprietary and is restricted
- Persons who possess system key are responsible for its security
- Any loss or compromise of system key **MUST** be reported to system staff

What is a System Key?

- A small file that is loaded into programming software to allow entry/edit of trunking data
- Each SU vendor requires their own version of the key
- WISCOM does not currently use or require an “advanced” hardware system key
- WISCOM provides the appropriate key(s) to programmers as needed per agreement

Subscriber Unit Specs

- The system is being tested with several manufacturer's radios.
- The SSMG has adopted recommendations for radio specifications. These specifications are in line with current P25 standards in order to ensure that user agencies purchase radios which operate seamlessly on WISCOM.
- These standards are not intended to limit which radios can be used with the system.

Subscriber Unit Specs

- 138 - 174 MHz
- Project 25 standard digital trunking
- 50 watts (maximum)
- AMBE +2 full rate vocoder
- 128 control channel capacity (minimum)
- 512 channels (minimum)
- Roaming algorithm that considers RSSI, adjacent site information, noise environment, etc.
- Full spectrum control channel scan capability
- Preferred site list
- Support multiple trunking systems

Subscriber Unit Testing

- Vendors we invited and will fund for testing:
 - EF Johnson
 - Harris
 - Icom
 - Motorola
 - Relm
 - Tait

Subscriber Unit Testing

- Testing Schedule:
 - OJA-funded testing in August 2011
 - Vendor-funded testing (new products) TBD between Vendor and our engineering consultant.

Subscriber Unit Testing

- Anticipated Outcome:
 - Funded trunking upgrades
 - Informed awareness among public safety regarding anticipated performance when making purchasing decisions on portables and mobile equipment.

Subscriber Unit Testing

- Independent Engineering evaluation via comprehensive testing
 - Performance testing both on bench and road
 - Supplements typical features public safety uses that is an optional P25 standard

Required Programming

- All WISCOM radios are required to have these interop TG's
 - STAC1 through STAC8
 - RTAC11-14
 - RTAC21-24
 - RTAC31-34
 - RTAC41-44
 - RTAC51-54
 - RTAC61-64

Programming Notes

- Talkgroup values are in Decimal format
 - STAC1 is TG ID 1
 - RTAC44 is TG ID 44
 - Some vendor SU's will require Hex conversion
- System ID
 - B0C (Hex)
 - 2828 (Dec)
- System NAC is B0C

Upcoming Programs

OJJA

County Connections

- Enables primary County PSAP to access WISCOM
- Form available to express interest in one of the county connection options
 - If representing the primary county PSAP, fill out form and turn it in today
 - All others can take form back to agency administration for review

County Connections

1A - Control Station in dispatch



County Connections

1B - Control station/console interface



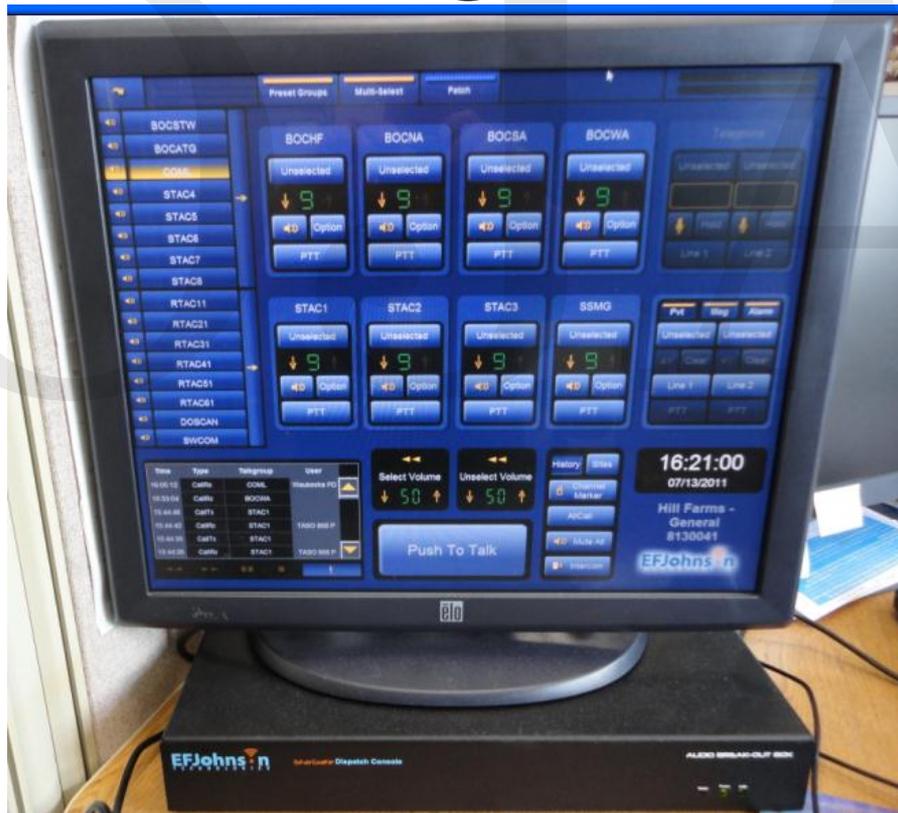
County Connections

2 - Gateway/console interface (4 TG)



County Connections

3 – EFJ Stargate console



WISCOM User Training

- Training required for system users
 - Basic operation
 - System overview
- Program in development by OJA
 - Regional or departmental sessions
 - Train-the-trainer sessions
 - Web-based and classroom
- Goal timeline of September 2011

Conclusion

- Closing remarks
- Tower tours
- Equipment demos
- Thanks for coming today!