☞ 11hr_SC-LPSUA_sb0030_pt03c

🔼

☞

WISCONSIN STATE LEGISLATURE ...

PUBLIC HEARING - COMMITTEE RECORDS

2011-12

(session year)

Senate

(Assembly, Senate or Joint)

Committee on ... Labor, Public Safety, and Urban Affairs (SC-LPSUA)

COMMITTEE NOTICES ...

➤ Committee Reports ... **CR**

➤ Executive Sessions ... **ES**

➤ Public Hearings ... **PH**

INFORMATION COLLECTED BY COMMITTEE <u>FOR</u> AND <u>AGAINST</u> PROPOSAL

➤ Appointments ... **Appt** (w/Record of Comm. Proceedings)

➤ Clearinghouse Rules ... **CRule** (w/Record of Comm. Proceedings)

➤ Hearing Records ... bills and resolutions (w/Record of Comm. Proceedings)
    (**ab** = Assembly Bill)   (**ar** = Assembly Resolution)   (**ajr** = Assembly Joint Resolution)
    (**sb** = Senate Bill)   (**sr** = Senate Resolution)   (**sjr** = Senate Joint Resolution)

➤ Miscellaneous ... **Misc**

APPENDIX A
MABAS DIVISION XXX
CROSS-BAND REPEATER FREQUENCY RELATIONSHIPS

MOBEXCOM CROSSBAND REPEATER

MODE #	CHANNEL DESCRIPTION	8-Character Radio Display Name
1	800 RED VHF FIRECOM	FIRCOM R
2	800 WHITE VHF FIRECOM	FIRCOM W
3	800 BLUE VHF FIRECOM	FIRCOM B
4	800 RED VHF MARC 2	MARC2 R
5	800 WHITE VHF MARC 2	MARC2 W
6	800 BLUE VHF MARC 2	MARC2 B
7	800 RED VHF TAC1	TAC1 R
8	800 WHITE VHF TAC1	TAC1 W
9	800 BLUE VHF TAC1	TAC1 B
10	800 RED VHF TAC2	TAC2 R
11	800 WHITE VHF TAC2	TAC2 W
12	800 BLUE VHF TAC2	TAC2 B
13	800 RED VHF RED	RED R
14	800 WHITE VHF WHITE	WHITE W
15	800 BLUE VHF BLUE	BLUE B

APPENDIX B
BOX ALARM REQUEST WORKSHEET

Information to Obtain:

Requesting Agency_____

Box Alarm Number_____

Box Level_____
<div align="center">(MABAS Box Alarm, MABAS 2nd Alarm, MABAS 3rd Alarm, etc.)</div>

Type of Incident_____
<div align="center">(Structure Fire, Hazardous Materials Spill, etc.)</div>

Location_____
<div align="center">(Address/Business Name, Intersection, etc.)</div>

Staging Area_____

Operating Radio Frequency _____
<div align="center">(MABAS Fireground Red, White or Blue)</div>

Dispatch Procedures:

ACTIVATE ALERTING SYSTEM TWICE AND REPEAT THE FOLLOWING MESSAGE TWICE:
"THIS IS MABAS DIVISION XXX TO ALL LOCALS. THE _____ FIRE
<div align="center">(Agency)</div>

DEPARTMENT IS REQUESTING MABAS BOX NUMBER_____ TO THE

_____ LEVEL, FOR A _____
(MABAS Box, MABAS 2nd, etc.)   (Incident Type-e.g. Structure Fire, Mass Casualty, etc.)

AT_____ ,
<div align="center">(Location)</div>

THE FOLLOWING DEPARTMENTS ARE DUE TO RESPOND:
    (Read List of Departments/Equipment/Personnel and Destinations from Box Card)

STAGING WILL BE AT_____ ,
<div align="center">(Staging Area Location)</div>

OPERATING ON _____FREQUENCY,
<div align="center">(MABAS Fireground Red, White or Blue)</div>

ALL RESPONDING UNITS SWITCH TO AND ACKNOWLEDGE ON IFERN".

NOTE:
- All responding units must be identified by City, Unit Type, Unit Number (optional)
("Franklin Engine to MABAS Division XXX, responding to Cudahy Box 14-1, 3600 East Squire Avenue.")

MABAS ADVOCACY STATEMENT #1
<u>MABAS VHF INTEROPERABILITY STATEMENT</u>

1.0 PURPOSE

1.1 To encourage all MABAS members and other Fire Departments to obtain base station, mobile and portable radio communications capability on interagency radio frequencies for use during times of serious emergencies or disasters.

1.2 Amendment 1 - To add four additional 12.5 kHz "narrow-band" frequencies to the list of fire service interoperability channels identified in Statement #1 approved by the MABAS Executive Board on October 16, 2002.

2.0 SCOPE

This policy applies to all MABAS member agencies. It is encouraged that all fire departments and related emergency response organizations throughout Illinois adopt the procedures set forth herein.

3.0 BACKGROUND

3.1 Fire departments rely heavily on two-way radios to communicate between companies, departments, and other disciplines at emergency and disaster scenes. Fire Departments utilize radio frequencies in the VHF-Low, VHF-High, UHF and 800 MHz frequency bands for day-to-day operations. Newer technologies include the use of analog and digital transmissions and trunking technologies using incompatible protocols.

While these systems may meet the routine needs of individual departments, experience has shown that lack of interoperability between companies operating at an emergency scene can lead to serious and potentially life threatening consequences.

The FCC's national radio frequency band plan specifies four VHF-High Band radio frequencies for fire service interoperability and fireground operations. There are also five analog public safety mutual aid frequencies in the 800 MHz band plan. The state of Illinois has identified the frequency of 155.055 MHz (IREACH) as a statewide, interdisciplinary, coordination channel for use by police, fire, EMS, public works, highway and other governmental agencies.

Departments that utilize frequencies other than VHF-High Band for primary operations have developed various systems to communicate with MABAS departments at mutual aid calls. These systems include cross-band mobile repeaters and console patches to VHF base stations. These systems have many limitations, have tendencies to cause harmful interference, limit operating areas, may violate FCC rules, and could jeopardize the safety of personnel at emergency scenes.

NFPA standard 1221, **<u>Standard for the Installation, Maintenance, and Use of Emergency Communications Systems</u>**, Section 6-3.1.3 and 6-3.1.4 recommend that, "A simplex radio channel shall be provided for on-scene tactical communications" and "Communications system

design shall be such that a portable radio is capable of operating properly within the dispatch area without the use of mobile radio frequency (RF) amplifiers".

1.1   To encourage all MABAS members and other Fire Departments to obtain base station, mobile and portable radio communications capability on interagency radio frequencies for use during times of serious emergencies or disasters.

1.2 Amendment 1 - To add four additional 12.5 kHz "narrow-band" frequencies to the list of fire service interoperability channels identified in Statement #1 approved by the MABAS Executive Board on October 16, 2002.

2.0   SCOPE

This policy applies to all MABAS member agencies. It is encouraged that all fire departments and related emergency response organizations throughout Illinois adopt the procedures set forth herein.

3.0   BACKGROUND

3.1 Fire departments rely heavily on two-way radios to communicate between companies, departments, and other disciplines at emergency and disaster scenes. Fire Departments utilize radio frequencies in the VHF-Low, VHF-High, UHF and 800 MHz frequency bands for day-to-day operations. Newer technologies include the use of analog and digital transmissions and trunking technologies using incompatible protocols.

While these systems may meet the routine needs of individual departments, experience has shown that lack of interoperability between companies operating at an emergency scene can lead to serious and potentially life threatening consequences.

The FCC's national radio frequency band plan specifies four VHF-High Band radio frequencies for fire service interoperability and fireground operations. There are also five analog public safety mutual aid frequencies in the 800 MHZ band plan. The state of Illinois has identified the frequency of 155.055 MHz (IREACH) as a statewide, interdisciplinary, coordination channel for use by police, fire, EMS, public works, highway and other governmental agencies.

Departments that utilize frequencies other than VHF-High Band for primary operations have developed various systems to communicate with MABAS departments at mutual aid calls. These systems include cross-band mobile repeaters and console patches to VHF base stations. These systems have many limitations, have tendencies to cause harmful interference, limit operating areas, may violate FCC rules, and could jeopardize the safety of personnel at emergency scenes.

NFPA standard 1221, **Standard for the Installation, Maintenance, and Use of Emergency Communications Systems**, Section 6-3.1.3 and 6-3.1.4 recommend that, "A simplex radio channel shall be provided for on-scene tactical communications" and "Communications system design shall be such that a portable radio is capable of operating properly within the dispatch area without the use of mobile radio frequency (RF) amplifiers".

MABAS and the Illinois Emergency Management Agency (IEMA) have entered into an agreement to provide disaster response statewide. The potential exists for fire and EMS units to be operating for extended periods of time several hundred miles from their local jurisdiction or other distant jurisdictions may be operating in a stricken community during a disaster. Common mutual aid operations and fireground frequencies that will function statewide are essential.

3.2 The Federal Communications Commission (FCC) has designated four 12.5 kHz "narrow band" frequencies, three of which are for inter-system operation. As fire departments migrate to newer "narrow-band" two-way radio equipment, the four additional VHF fire frequencies could be integrated into MABAS's overall communications plan.

Future fire service communications could dictate an alternate base to mobile frequency. To address this need, one of the new frequencies will be designated for base and mobile licensing.

4.0   POLICY/PROCEDURE

The MABAS Special Communications Committee hereby makes the following recommendations for both member and non-member Fire Departments:

4.1   The following analog simplex radio frequencies are hereby identified for fire service and public safety interoperability:

Frequency	Name	Purpose
154.2650 MHz	IFERN*	Mutual Aid base/mobile dispatch
153.8300 MHz	Red Fireground	Fireground Operations
154.2800 MHz	White Fireground	Fireground Operations
154.2950 MHz	Blue Fireground	Fireground Operations
153.8375 MHz	Gold Fireground	Fireground Operations
154.2725 MHz	Black Fireground	Fireground Operations
154.2875 MHz	Gray Fireground	Fireground Operations
154.3025 MHz	IFERN2	Alternate Mutual Aid Base/Mobile

*IFERN (Interagency Fire Emergency Radio NetWORK) replaces the old NIFERN moniker.

4.2   All fire service apparatus that has the potential to respond mutual aid to a department that uses a different dispatch radio band or technology, or that may respond as part of an IEMA/MABAS disaster response, should have at least one mobile and one portable radio capable of functioning on the frequencies identified in Section 1.

4.3   All fire department command vehicles should have radio capability on the five VHF-High Band frequencies identified in Section 1.

4.4   All fire department dispatch centers statewide should have base station transmit and receive capabilities on the IFERN frequency of 154.265 MHz. MABAS members should have capability to receive and decode the MABAS alert tones.

4.5   Fire Departments that lack current FCC authorizations for the frequencies identified in Section 1 should immediately apply for proper frequency coordination and authorizations through the IMSA/IAFC frequency coordinator and FCC respectively.

4.6   MABAS Divisions are encouraged to apply for FCC authorizations on these frequencies.

4.6   The use of trunking technology, in-band or cross-band repeaters, or console based cross-band patches is strongly discouraged for tactical fireground operations.

4.7   In accordance with Illinois Department of Public Health rules, all ambulances shall have VHF-High band capabilities on the statewide MERCI frequency of 155.340 MHz utilizing a transmit CTCSS (PL) tone of 210.7 Hz (M2).

5.0   CONCLUSION

Interoperability between various fire departments and other public safety and governmental agencies at major emergencies or disasters is essential for organized and safe coordination of personnel and resources.

Approved by the MABAS Executive Board on 10/16/2002.
      Amendment 1 - Approved by the MABAS Executive Board on 04/24/2003.

APPENDIX D
MABAS ADVOCACY STATEMENT #2
MABAS RADIO LICENSING

1.0 PURPOSE

To encourage all MABAS members and other Fire Departments to obtain current FCC Radio Station Authorizations (licenses) for all stations and frequencies frequently used for routine or emergency radio communications.

2.0 SCOPE

This policy applies to all MABAS member agencies. It is encouraged that all fire departments and related emergency response organizations throughout Illinois adopt the procedures set forth herein.

3.0 BACKGROUND

Fire departments rely on the use of two-way radio communications for alerting personnel of emergency calls, coordinating emergency scene activities and communications with dispatch and mutual aid departments. Experience has shown that many departments are in violation of FCC regulations for various reasons including, but not limited to:

- Operating stations, both fixed and mobile, on frequencies for which they are not licensed.

- Operating stations utilizing radio licenses that have expired.

- Operating stations utilizing antenna heights or output power levels that exceed those authorized by the FCC.

- Operating base radio stations on mobile only frequencies such as the national fireground frequency of 153.830 MHz.

- Improperly using licensed fireground or mutual aid frequencies for routine call dispatch.

4.0 POLICY/PROCEDURE

The MABAS Special Communications Committee hereby makes the following recommendations for both member and non-member Fire Departments:

4.1 Each Fire Chief should ensure that a complete audit of radio operations and FCC Authorizations is conducted within their Department to determine that all stations and frequencies routinely utilized by their Department are properly licensed.

4.2 The above audit should include a review by a qualified radio service technician that all base and mobile units are operating within the technical specifications of their FCC Authorization(s).

4.3   Fire Departments that lack current FCC Authorizations consistent with their operations should immediately apply for proper frequency coordination and authorizations through the IMSA/IAFC frequency coordinator and FCC respectively. Information concerning licensing procedures and frequency coordinators can be found at the FCC website www.fcc.gov.

4.4   Fire Departments utilizing fireground or mutual aid frequencies for routine dispatch operations in violation of FCC rules should cease improper activity on those frequencies as soon as possible and revert to other appropriate and licensed frequencies or immediately apply for proper frequencies through the IMSA/IAFC frequency coordinator and the FCC.

5.0   CONCLUSION

The FCC has the authority to cease radio operations, levy monetary fines and seize radio equipment, even public safety radio equipment, which is being operated in violation of their rules. The MABAS Special Radio Committee encourages all fire departments to operate within the parameters of their FCC Radio Station Authorization(s). Departments that lack appropriate FCC Radio Station Authorizations are encouraged to coordinate and obtain proper licenses as soon as possible.

Approved by the MABAS Executive Board on 10/16/2002

APPENDIX E
MABAS ADVOCACY STATEMENT #3
TRANSMIT POWER LIMITATION

1.0   PURPOSE

To encourage all MABAS member and other Fire Departments to voluntarily limit radio transmit power on fireground operations frequencies.

2.0   SCOPE

This policy applies to all MABAS member agencies. It is encouraged that all fire departments and related emergency response organizations throughout Illinois adopt the procedures set forth herein.

3.0   BACKGROUND

Many fire department mobile radios have the ability to transmit at radio frequency power levels up to 110 watts. High transmit power levels may be desirous or necessary for communications with dispatch, hospitals or other mobile units at great distances. These higher power levels are not generally necessary for operations at fireground and other emergency incident scenes that cover very small geographic areas. In fact, for example, base station or high power mobile operations could cause harmful interference to low power portable radios operating on the interior of a working structure fire.

Use of lower power levels on fireground frequencies also allows the reuse of those frequencies at incidents in neighboring jurisdictions without causing harmful interference.

Many newer radios have the ability to program various output power levels by frequency or mode. Fire departments have also installed secondary low power "fireground" radios into staff and command vehicles for use on fireground frequencies at emergency scenes.

4.0   POLICY/PROCEDURE

The MABAS Special Communications Committee hereby makes the following recommendations for both member and non-member Fire Departments:

4.1   Operations on fireground frequencies should be limited to ten (10) watts.

4.2   The use of base radios, including low power portable radios utilizing fixed (base station) antennas is strongly discouraged.

4.3   Fire departments are encouraged to inventory their mobile radio equipment and, if possible, modify these units for low power operation on all fireground radio frequencies.

5.0   CONCLUSION

The elimination of high power transmissions, and transmissions from fixed antenna sites on fireground frequencies will improve the safety of operations at fires and other emergencies. Low power fireground transmissions will also facilitate the reuse of fireground frequencies at multiple incidents without unnecessary interference.

Approved by the MABAS Executive Board on 10/16/2002.

MABAS ADVOCACY STATEMENT #4
MABAS ALERTING / COVERAGE

1.0 PURPOSE
To specify recommended paging tone formats and coverage areas for the MABAS radio alerting system.

2.0 SCOPE
This policy applies to all MABAS member divisions and their dispatch centers.

3.0 BACKGROUND
MABAS has used a standard two-tone sequential radio alerting system since the early 1970s. This system is simply comprised of paging encoders at MABAS Division dispatch centers that transmit specific paging tones on the IFERN (154.265 MHz) frequency and radio receivers that decode and alert when the proper tone code is received.

Paging encoders have variable encoding formats. Some receivers fail to properly decode when shortened paging tone formats are used.

MABAS Divisions can cover large geographical areas and may dispatch alarms that include departments in adjacent Divisions. Improperly positioned, or under designed, base radios may fail to effectively cover geographic areas where alerting is necessary.

4.0 POLICY/PROCEDURE
The MABAS Special Communications Committee hereby makes the following recommendations for both primary and back-up MABAS Division Dispatch Centers:

4.1   Paging encoders should be programmed for a two-tone sequential paging format using the timing for Tone A of 1.5 seconds with the timing for Tone B of 3.5 seconds with no delay between tones. Tone A is 1082.0 Hz and Tone B is 701.0 Hz.

4.2   MABAS Divisions are encouraged to conduct tests with member departments, and departments they dispatch from neighboring Divisions, to ensure the transmit signal is adequate to open alert radios. An acceptable engineering standard is to provide 95% mobile coverage throughout the desired coverage area. If deficiencies are found, the base radio system should be re-engineered and application for license modifications, if necessary, be processed so that both primary and back-up dispatch centers effectively cover their service areas.

5.0 CONCLUSION
Transmission of alerting signals using proper tones, timing formats and signal strengths will ensure that all agencies due on a specific alarm are properly notified of a MABAS box alarm event.

Approved by the MABAS Executive Board on 10/16/2002.

MABAS ADVOCACY STATEMENT #5
USE OF MEDICAL HELICOPTERS

1.0 PURPOSE

To recommend the use of MERCI or IREACH radio frequencies for medical helicopter landing zones.

2.0 SCOPE

This policy applies to all MABAS member agencies. It is encouraged that all fire departments and related emergency response organizations throughout Illinois adopt the procedures set forth herein.

3.0 BACKGROUND

Fire Departments frequently request medical evacuation helicopters to the scenes of accidents and other emergencies. It has become the "norm" for these helicopters to use the IFERN (154.265 MHz) frequency for landing zone coordination with the requesting fire department.

Experience has shown that the use of IFERN by medical helicopters is less than desirable. Helicopters landing at scenes where MABAS Box Alarm incidents are in progress can disrupt necessary communications with the MABAS Division, other responding units, staging, etc. Likewise, other incident related radio traffic can interfere with safety related transmissions between the landing zone Division and the medical helicopter.

Radio communications from medical helicopters while in flight can cover great geographic areas due to their antenna height. Helicopters responding to an incident in one jurisdiction can cause, or receive, harmful interference to/from an in-progress MABAS box alarm in another jurisdiction.

4.0 POLICY/PROCEDURE

The MABAS Special Communications Committee hereby makes the following recommendations for communications between fire department units and medical evacuation helicopters:

4.1 The use of IFERN (154.265 MHz) or RED, WHITE or BLUE fireground frequencies for medical evacuation helicopter landing zones is an inappropriate use of the frequency and is strongly discouraged.

4.2 The use of existing VHF-MERCI or IREACH frequencies is more appropriate for landing zone or ambulance to helicopter communications.

4.3 For areas that use MERCI 340 (155.340 MHz) as their primary ambulance to hospital frequency, MERCI 400 (155.400 MHz) for communications with medical helicopters should be considered. (Areas south of North Avenue in the Chicago metropolitan area.)

4.4 For areas that use MERCI 400 (155.400 MHz) as their primary ambulance to hospital frequency, MERCI 340 (155.340 MHz) for communications with medical

helicopters should be the frequency of choice. (Areas north of North Avenue in the Chicago metropolitan area.)

   4.5   Departments should consult with their EMS System to determine if the use of Tone Coded Squelch (PL) is desired to allow monitoring of landing zone activities by Medical Control.

   4.6   Departments without EMS responsibilities, or departments where use of existing VHF-MERCI frequencies is undesirable for helicopter use, IREACH (155.055 MHz should be the frequency of choice for landing zone communications).

5.0   CONCLUSION

   Proper use of available radio frequencies can eliminate harmful interference between MABAS incidents and medical helicopters. Nothing in this statement is intended to discourage the use of other licensed frequencies not specified herein for use during helicopter landing zone situations.

Approved by the MABAS Executive Board on 10/16/2002

MABAS
MEDICAL HELICOPTER REQUEST PROCEDURES / WORKSHEET

Purpose:

This recommended procedure is for use by fire department dispatch centers as a tool to efficiently request medical helicopters to the scene of medical emergencies at the request of EMS personnel at the scene.

This procedure should be implemented whenever Fire/EMS personnel at the scene of an incident request a medical evacuation helicopter.

Procedure:

1. The following information must be obtained or known by the radio operator from the incident commander or EMS unit before a request for a medical helicopter can be processed:

Department Requesting Helicopter:_____

Landing Zone Location:_____
<div align="center">(Major Intersection/Cross Streets)</div>

GPS Coordinates (if available):   _____North
                                    _____ West

Landing Zone Frequency: ☐ Milwaukee County EMS Channel 10
                            ☐ MARC VHF Frequency (151.280 MHz)
                            ☐ Local Frequency (_____MHz)

Basic Call Information: (Auto Accident, Construction Accident, Shooting, Amputation, Etc.)
Hazardous Materials Involved?   ☐ YES   ☐ NO

Number of victims requiring helicopter transport: _____

2. The radio operator must telephone one or more helicopter services to locate available units:
   Flight for Life (Milwaukee)   1-800-451-4673
   Flight for Life (McHenry)   1-800-344-1000 or 1-815-344-1000

3. Advise the responding helicopter(s) the information obtained in Section 1. Advise all helicopter services if more than one service is responding to the same landing zone for multiple patients. Obtain helicopter ETA(s). A single page worksheet is included for use by the dispatcher.

4. The radio operator must update the Incident Commander or Landing Zone Division as to the name of the responding helicopter agency(ies), their ETA or that no helicopter agency is available or are unable to fly due to weather.

MABAS
Division XXX Medical Helicopter Request Worksheet

Department Requesting Helicopter:_____

Landing Zone Location:_____
(Major Intersection/Cross Streets)

GPS Coordinates (if available): _____North

_____ West

Landing Zone Frequency: ☐ Milwaukee County EMS Channel 10
☐ MARC VHF Frequency (151.280 MHz)
☐ Local Frequency (_____ MHz)

Basic Call Information: (Auto Accident, Construction Accident, Shooting, Amputation, Etc.)

Hazardous Materials Involved? ☐ YES   ☐ NO

Number of victims requiring helicopter transport: _____

Helicopter Service	Dispatch Number	Available? No	Yes	ETA
Flight for Life (Milwaukee)	1-800-451-4673			
Flight for Life (McHenry)	1-800-344-1000			
Med Flight (Madison)	1-608-263-3258			
REACT (Rockford)	1-815-971-4750			
Lifeline (Rockford)	1-815-395-5499			
University of Chicago	1-800-621-7827			
Loyola Lifestar (Maywood)	1-800-888-5862			
Air Angels (Dupage)	1-877-247-5438			

Date:_____ Time:_____ Operator:_____

APPENDIX H
MABAS ADVOCACY STATEMENT #6
CTCSS TONES

1.0   PURPOSE

To implement the use of Carrier Tone Coded Squelch Systems (CTCSS), also commonly known as "Private Line (TM)" or "PL(TM)" on the IFERN and fireground frequencies.

2.0   SCOPE

This policy applies to all MABAS member agencies. It is encouraged that all fire departments and related emergency response organizations throughout Illinois adopt the procedures set forth herein.

3.0   BACKGROUND

When the MABAS organization was formed in the early 1970's, radio communications were primitive as compared to the systems and equipment in use today. Many radios were not capable of CTCSS and those that were CTCSS equipped were limited to a single tone frequency. Since numerous CTCSS tones were already in use throughout the Chicago metropolitan area, a single CTCSS tone for MABAS was not practical and carrier squelch mode was selected.

Radio spectrum has become increasingly congested, especially in the large metropolitan areas. This congestion includes the public safety radio frequency spectrum. Many base stations that monitor the IFERN frequency in carrier squelch mode are subjected to adjacent channel interference and frequency mixes. Adjacent states utilize the IFERN frequency for other purposes, which also cause unwanted interference. The result is radio volumes are muted, limiting the effectiveness of the frequency.

In the command unit environment, where multiple radios are being used in close proximity to one another, there is often unwanted noise received and sounded through the radio speakers. While mostly annoying, this problem can be masked by the use of different CTCSS tones on the various frequencies being used.

Most radio communications equipment in use today by the fire service is capable of multiple CTCSS tones, selected on a mode specific basis. Older equipment can also be inexpensively modified to transmit CTCSS tones.

4.0   POLICY/PROCEDURE

The MABAS Special Communications Committee hereby makes the following recommendations for both member and non-member Fire Departments:

4.1   All IFERN base station radios should be programmed or modified for transmit and receive CTCSS utilizing a tone frequency of 210.7 Hz (M2).

4.2   All fire service mobile/portable radios should be programmed or modified for transmit CTCSS utilizing the following tones:

IFERN	154.2650 MHz	210.7 (M2)
RED Fireground	153.8300 MHz	69.3 (WZ)
WHITE Fireground	154.2800 MHz	74.4 (WA)

BLUE Fireground	154.2950 MHz	85.4 (YA)
GOLD Fireground	153.8375 MHz	91.5 (ZZ)
BLACK Fireground	154.2725 MHz	94.8 (ZA)
GRAY Fireground	154.2875 MHz	136.5 (4Z)
IFERN2	154.3025 MHz	67.0 (XZ)

4.3   All MABAS Divisions and fire departments should be prepared to implement the use of CTCSS on the IFERN frequency with an absolute application date of January 1, 2006.

4.4   All base and communications/command van users should monitor the frequencies in the carrier squelch mode prior to transmitting as required by FCC regulations.

5.0   CONCLUSION

Adding CTCSS to base station receivers should control unwanted co-channel and adjacent channel interference.

Approved by the MABAS Executive Board on 04/24/2003.

APPENDIX I
MABAS ADVOCACY STATEMENT #7
STATEWIDE RADIO LICENSE

1.0   PURPOSE

To permit the sharing of the MABAS statewide radio authorization, **WQAG579**, for the IFERN and IFERN2 dispatch frequencies and the Red, White, Blue, Gold, Black & Gray fireground frequencies with MABAS member departments operating under the signed MABAS agreement and their affiliated emergency response entities.

2.0   SCOPE

This policy applies to all MABAS member agencies. It is encouraged that all fire departments and related emergency response organizations throughout Illinois adopt the procedures set forth herein.

3.0   BACKGROUND

The Mutual Aid Box Alarm System (MABAS), an intergovernmental agency, has been granted an authorization by the Federal Communications Commission to operate mobile and temporary fixed base stations throughout the State of Illinois on the eight (8) "MABAS" frequencies. This authorization was obtained to ensure fire service interoperability throughout Illinois at emergency incidents and disaster scenes.

4.0   POLICY/PROCEDURE

In accordance with Part 90, Subpart H, Section 179 of the Federal Communications Commission's rules and regulations, *Shared Use of Radio Stations*, the MABAS Executive Board hereby authorizes the shared use by member MABAS departments and their affiliated emergency response organizations, that qualify for public safety licensure, frequencies authorized by the Federal Communications Commission (FCC) on call sign WQAG579 provided that all of the following conditions are met:

4.1   The use of the identified MABAS frequencies will be restricted to emergency scene communications and official training activities. Use of the frequencies for non-emergency activities is prohibited.

4.2   Member departments using the MABAS authorization agree to abide by all applicable FCC rules and regulations.

4.3   Member departments using the MABAS authorization agree to abide by all relevant MABAS Communications Advocacy Statements.

4.4   Member departments using the MABAS authorization agree to limit transmit power to a maximum of ten (10) watts on the Red, White, Blue, Gold, Black & Gray fireground frequencies.

4.5   Member departments must only program IFERN 2 and Gold, Black and Gray fireground frequencies using narrowband emissions.

5.0 CONCLUSION

The FCC has the authority to cease radio operations, levy monetary fines and seize radio equipment, even public safety radio equipment, which is being operated in violation of their rules. Neither the Mutual Aid Box Alarm System or the MABAS Executive Board will accept responsibility for operations by member or non-member entities on the eight (8) MABAS frequencies that are in conflict with FCC rules or are in conflict with this advocacy statement, MABAS rules and regulations or any other local, state or federal law. Any sanctions imposed by the Federal Communications Commission, including fines, costs and attorney's fees incurred by MABAS due to a member or non-member entity's improper use of the MABAS frequencies shall be the responsibility of the offending party.

Approved by the MABAS Executive Board on February 5, 2004.

Effective: May 26, 2004

MABAS ADVOCACY STATEMENT #8
TECHNICIAN'S GUIDELINES FOR CONFIGURING FIRE RADIOS

1.0   PURPOSE
1.1   To provide a source for radio technicians, both independent radio shops and in-house radio programmers, so that mobile and portable radios will contain proper features to adequately function within the guidelines of the various MABAS Radio Advocacy Statements and MABAS Policies.

2.0   SCOPE
2.1 This information can be utilized by all fire departments and their respective radio technicians.

3.0   BACKGROUND
3.1 The MABAS Radio Committee has fielded questions from radio shops and fire agencies which are looking for guidance on programming features, channel designators, and other radio parameters that are necessary to attain interoperability with all MABAS agencies.

4.0   TECHNICAL PARAMETERS STATEMENT
4.1   CHANNEL SPECIFICATIONS AND NOMENCLATURE:
CTCSS is found only on the transmitter of the radio for portables and mobiles on wideband frequencies. If a command van is used, or a base-station is used for regional reception, CTCSS for the receiver may be considered for those radios found in communications vans or base stations only to reduce interference.

Freq: TX/RX	CTCSS Tone	Name	Suggested Display or Abbreviation
154.2650	210.7 (M2) (Note 3)	Interagency Fire Emergency Radio Network	IFERN
154.3025 (N)	67.0 (XZ) (Note 4)	Interagency Fire Emergency Radio Network 2	IFERN2
153.8300	69.3 (WZ) (Note 3)	RED Fireground	FG-RED
154.2800	74.4 (WA) (Note 3)	WHITE Fireground	FG-WHITE
154.2950	85.4 (YA) (Note 3)	BLUE Fireground	FG-BLUE
153.8375 (N)	91.5 (ZZ) (Note 4)	GOLD Fireground	FG-GOLD
154.2725 (N)	94.8 (ZA) (Note 4)	BLACK Fireground	FG-BLACK
154.2875 (N)	136.5 (4Z) (Note 4)	GRAY Fireground	FG-GRAY

Note 1: The radio's LCD display may also contain channel number as space allows, i.e. "4 IFERN".
Note 2: (N) Means Narrow-Band Only. Not all radios are capable for Narrow-Band based on age and FCC Type Acceptance.
Note 3: Until the FCC makes a final decision on narrow-band, MABAS recommends that "transmit only" CTCSS be implemented on portables and mobiles for the wideband channels.

Note 4: MABAS recommends that "full TX/RX" CTCSS be implemented on portables and mobiles for the narrowband channels.

4.2   CHANNELIZATION:

The MABAS Radio Committee **has not adopted a standardized channel layout** for radios, however, it is noted that many agencies are standardizing with the following format **AS AN EXAMPLE ONLY**. This is NOT to be considered a "MABAS Standard" but simply an example of how many fire agencies have programmed their radios.

-The normal VHF dispatch channel (non-MABAS listed channel) should be found at Channel 1 so that the gloved operator in the field can rotate the channel selector fully counter-clockwise to find the normal fire dispatch channel for routine local (non-MABAS) dispatch.

-The RED Fireground frequency should be found at the last channel, usually Channel 16, so that rotating the channel selector fully clockwise will find the most commonly used Fireground channel. Subsequent "clicks" counterclockwise will allow the operator to quickly switch to White and Blue, etc. if alternate Fireground channels are used.

EXAMPLE Channel layout:

F1	Regular VHF dispatch channel, i.e. 154.175
F2	IFERN
F3	Other channels....
...	Other channels....
...	Other channels....
...	Other channels....
F11	Fireground GRAY
F12	Fireground BLACK
F13	Fireground GOLD
F14	Fireground BLUE
F15	Fireground WHITE
F16	Fireground RED

4.3   SCAN FEATURES:

The MABAS Communications Committee has fielded questions on popular scan configurations in programmable mobile and portable radios. Configurations should include:

a.   **Scan List:** A list of channels should be limited to tactical channels or essential channels for the command function. Scan lists should be limited to IFERN, Fireground channels, and main dispatch channel. This is a local decision based on local policy, however, lower-priority channels or seldom used channels should probably not be included in a scan list when in a tactical mode.

b.   **Deletion of "talk-back" scan:** This feature moves the transmit frequency to the channel where last activity occurred. In this scan mode, the operator may actually transmit on an undesired channel because the radio sensed activity on a non-primary channel

c.   **Use of "Priority Scan":** Radios should be configured so that the scanner's priority follows the selected channel. Regardless of how many channels are in a given scan list, priority is given to the channel that is selected by the channel selector. Activity on the selected channel will be given priority over activity on any other channel in the scan list.

5.0   PRACTICAL PARAMETERS STATEMENT

5.1 CHANNEL GUIDE:

Because most popular radios are multi-channel, it is recommended that a channel guide be available to the operators. A laminated card, label, or engraved plate should be available on the front of the radio

case, or on the radio's holster. Mobile radios should have a similar channel guide in plain view near the radio.

Mobile and portable radios with alpha-numeric displays my not require any type of placard, card, or label unless special instructions are desired.

5.2 PORTABLE RADIO SPEAKER & PUBLIC-SAFETY MICROPHONE:

There are many options for speaker-microphones and accessories. Recommendations:

a. **Speaker Mic:** Speaker microphones (coiled cord with microphone containing a push-to-talk switch, and speaker), when used, still allows the portable-radio antenna to be away from the operator's body, per manufacturer's guidelines.

b. **Public-Safety Mic:** Public-safety microphones (straight or nearly straight cord with speaker, microphone, push-to-talk switch, and remote antenna). The installation must strictly adhere to manufacturers guidelines and must remain unmodified. The mic-mounted remote antenna must remain in place since the portable-mounted antenna is automatically disconnected once the public-safety microphone is attached to the radio. The proper band antenna needs to be used. Even though a UHF antenna may be shorter and "more convenient", it does not perform properly on a VHF radio. It can cause damage to the radio, and it will degrade performance.

5.3 MOBILE RADIO ANTENNAS:

a. Glass-mounted antennas: There are various manufacturers who make on-the-glass antennas for VHF. Many do not perform to public-safety-grade standards. This leads to poor reception, decreased transmit power, interference to other mobile radios, poor ground, and other problems. These antennas, if used at all, should be used with a high degree of caution.

b. Mounting positions of permanent antennas: Antennas mounted on the body of a vehicle should be as high as possible, and as centered as possible for best performance.

c. Mobiles that require more than one radio antenna should consider antenna spacing based on 1/8-wavelength null. This helps to reduce in-band and cross-band interference between radios.

5.4 MOBILE RADIO POWER SETTINGS:

a. It is recommended that mobile radios be programmed or adjusted with power setting not to exceed 10 watts on all Fireground channels. High power settings (over 25W) could be used on IFERN, IFERN2, or as needed for authorized frequencies other than the identified Fireground frequencies.

b. It is recognized that some legacy mobile radios only have one power setting, often at 100 Watts. As mobile radios are replaced, MABAS encourages compliance with the low-power guidelines for Fireground channels.

c. Power should be programmed or adjusted using good engineering practices with trained personnel using professional-grade test equipment such as dummy loads, service monitors and Watt meters.

6.0 CONCLUSION

6.1 This guideline should be useful for radio technicians, or those who are competent in the use of radio programming software, in properly setting up mobile and portable radios to ensure MABAS interoperability. It is hoped that technicians can use this guideline to counsel the users so that optimal radio performance is achieved.

Approved by the MABAS Executive Board on August 5, 2004.

MABAS ADVOCACY STATEMENT #9
GUIDELINES FOR AFFILIATE WEBSITE MANAGEMENT

1.0 **PURPOSE**
1.1 To clarify the general policies and procedures for the MABAS Communications Committee to maintain of all MABAS-managed websites on the Internet.

2.0 **SCOPE**
2.1 This Advocacy Statement describes the maintenance and oversight of the following websites that are affiliated with MABAS and managed by the MABAS Communications Committee:
www.MABAS.org
www.MABASRADIO.org
www.IL-TF-1.org

3.0 **BACKGROUND**
3.1 In order to properly disseminate timely and accurate information to MABAS members, potential members, as well as Illinois USAR Task Force 1, the following describes an Internet-based method of information exchange.

4.0 **PRACTICAL PARAMETERS STATEMENT**
4.1 www.MABAS.org
a. Creative design and non-informational format will be left up to the Webmasters at the Lisle-Woodridge Fire District, the host entity. Oversight will be via the MABAS Communications Committee's Website Manager. This site will be highly informational, attractive, professional-looking, and act as a useful tool for MABAS agencies to retrieve valuable information.
b. Content will be moderated by the MABAS Communications Committee Website Manager with input from the MABAS Executive Board. Submissions shall be sent to the MABAS Communications Committee Website Manager via the email-link as found on the websites.
c. Webmasters will be supervised by the MABAS Communications Committee Website Manager.
d. Any links to other MABAS Division websites will contain disclaimers that the MABAS organization is not responsible for the accuracy of information posted on other websites.

4.2 www.MABASRADIO.org
a. Creative design and non-informational format will be left up to the Webmasters. Oversight will be the MABAS Communications Committee Website Manager. This site will be highly informational, attractive, professional-looking, and act as a useful tool for MABAS agencies to retrieve valuable information.
b. The MABAS Communications Committee Website Manager will continue to post radio-related links, articles, and factual materials on the MABASRADIO web page. Editorial comment will be limited to MABAS-endorsed concepts such as advocacy statements, FCC rulemaking, etc. It will continue to be highly informational. Changes will be made in a timely manner, and decisions for posting will be based on the MABAS Communications Committee Website Manager's judgment and recommendations from the MABAS Communications Committee members.
c. Personnel assisting on this site are accountable to the MABAS Communications Committee Website Manager.
d. Any links to other MABAS Division websites will contain disclaimers that the MABAS organization is not responsible for the accuracy of information posted on other websites.

4.3   www.IL-TF-1.org

      a. Creative design and non-informational format will be left up to the Webmasters, with input from the Illinois Urban Search & Rescue Task Force 1 management team. Oversight will be via the MABAS Communications Committee Website Manager. This site will be highly informational, attractive, professional-looking, and act as a useful tool for various agencies to retrieve valuable information regarding Illinois USAR Task Force 1.

      b. Content will be solely dependent on submissions to the MABAS Communications Committee Website Manager from one of the following: Task Force Team Leaders or overhead team members. Posting sources will be limited to the Taskforce leadership. Submissions shall be sent to the MABAS Communications Committee Website Manager. Hardcopy will be scanned and posted as standard Adobe PDF format or otherwise converted to suitable web viewing.

      c. Personnel assisting on this site are accountable to the MABAS Communications Committee Website Manager.

      d. Any links to other organization websites will contain disclaimers that MABAS/Illinois USAR TF-1 is not responsible for the accuracy of information posted on other websites.

      e. Sections of the webpage will be password-protected to avoid unintentional disclosure of information, schedules, events, or privileged information. Passwords will be given out and maintained by the MABAS Communications Committee Website Manager at the direction of the Illinois Task Force 1 management team.

5.0   CONCLUSION

5.1   This guideline should be useful for webmasters, website users, and the MABAS Executive Board, and members of Illinois USAR Task Force 1 to ensure that proper information is disseminated while stating guidelines that will prevent the dissemination of sensitive, secure, or privileged information.

Approved by the MABAS Executive Board on August 5, 2004.

APPENDIX L
MABAS ADVOCACY STATEMENT #10
USE OF IFERN AND IFERN 2 RADIO FREQUENCIES

1.0 **PURPOSE**

    1.1 To clarify the general policies and procedures related to the use of the Interagency Fire Emergency Radio Network (IFERN) frequency (154.265 MHz) as well as the recently designated IFERN2 frequency (154.3025 MHz).

2.0 **SCOPE**

    2.1 This Advocacy Statement applies to all MABAS Divisions and member Departments.

3.0 **BACKGROUND**

    3.1 Traditionally, the IFERN frequency (formerly NIFERN) has been utilized by the MABAS organization for the dispatch of units and coordination of mutual aid responses to a stricken community. IFERN has also been utilized to coordinate mutual aid activities outside of a MABAS Box Alarm event between fire departments with dissimilar primary radio frequencies. IFERN has experienced increased congestion due to the growing number of MABAS Divisions, member Fire Departments, and Box Alarm dispatches. As a result of comments addressed to the Communications Committee concerning the foregoing situations, this Advocacy Statement has been developed. Other technologies are being implemented that will serve the need for wide area information dissemination that are better suited than IFERN. These technologies include EMNet, Law Enforcement data System (LEADS) and Starcom21.

4.0 **POLICY/PROCEDURE**

    4.1 MABAS BOX ALARMS: Requesting, dispatching, and response to MABAS Box Alarms are appropriate uses of the IFERN frequency. This radio traffic will include, but not necessarily be limited to:

        4.1.1 The Incident Commander, or stricken entity's dispatch authority, requesting the MABAS Box Alarm dispatch including box alarm number, general incident information and staging area.

        4.1.2 Coordination of responding units to the emergency scene and/or staging area.

        4.1.3 Coordination of the staging area, including communications between the Incident Commander and Staging Officer.

        4.1.4 Routine updates, reports and/or requests for additional assistance or resources.

        4.1.5 Communications between the Incident Commander and the stricken community's local dispatch authority.

    4.2 CHANGE OF QUARTERS COMPANIES: Coordination of units responding to change quarters into a stricken community is an appropriate use of the IFERN Frequency. This radio traffic will include, but not necessarily be limited to:

        4.2.1 Communications between the MABAS Division Dispatch and units responding to the stricken community for change of quarters.

        4.2.2 Communications between the change of quarters units and the stricken community's local dispatch authority to coordinate responses to additional emergencies within the community.

    4.3 MUTUAL AID COORDINATION: Coordination of units responding to an emergency incident that involves one or more fire departments that utilize dissimilar primary dispatch

frequencies is an appropriate use of the IFERN frequency. This may include responses involving automatic mutual aid or other similar emergencies that do not necessitate a MABAS Box Alarm.

4.4 **FIRE/EMS EMERGENCY CALL RELAY**: Relay of fire and/or EMS emergency incident information between Public Safety Answering Points (PSAPs) or fire service dispatch centers that utilize dissimilar primary dispatch frequencies.

4.5 **MULTIPLE DEPARTMENT TRAINING EVENTS**: The use of IFERN, as well as the MABAS fireground tactical frequencies, is appropriate when coordinating training events that involve multiple fire departments when one or more of the fire departments utilizes a dissimilar primary radio frequency. This type of training event may also include the dispatch of a MABAS Box Alarm for drill purposes.

4.6 **INFORMATIONAL ANNOUNCEMENTS**: The use of IFERN and/or the MABAS Alerting Tones for the purpose of wide-area dissemination of informational announcements is not appropriate. These types of informational announcements may include, but not be limited to:

<div style="text-align:center">

Severe Weather Watches and Warnings
Hospital Bypass, Closure or Diversion
Apparatus In/Out of Service or Relocation
AMBER Alerts

</div>

4.7 **RETONING BOX ALARMS**: Frequently a MABAS Box Alarm assignment includes departments from adjacent MABAS Divisions. It is not appropriate for multiple MABAS Divisions to activate the MABAS Alerting Tones and dispatch units to the same incident. The MABAS Division with primary mutual aid dispatch responsibility for the incident will be responsible for all dispatch and radio traffic associated with that specific MABAS Box Alarm incident. The exception to this section is for an Inter-Divisional MABAS request that is beyond the last level of the Box Alarm Card. (Please refer to ADVOCACY STATEMENT #4 - MABAS ALERTING/COVERAGE for additional guidance.)

4.8 **ALTERNATE TRAFFIC FREQUENCY**: The use of IFERN as an alternate radio frequency for local radio traffic is not appropriate. This would include local dispatch or response communications when the primary dispatch frequency is over burdened.

4.9 IFERN2: The narrowband frequency of 154.3025 MHz (IFERN2) has been secured for statewide use in Illinois and Wisconsin as an alternate mutual aid dispatch frequency for the MABAS organization. Uses of IFERN2 include, but are not limited to:

    4.9.1 Disaster Response: Command and Control at disaster scenes through the use of temporary fixed base stations and/or mobile command posts. This would include coordination of base camp operations.

    4.9.2 Wide Area Information Dissemination: A MABAS Division may elect to construct a network of fixed base stations and alerting receivers for the purpose of timely dissemination of information to member departments. (Note: Fixed Base Stations will require FCC authorization prior to construction.) Informational messages that may be broadcast on the IFERN2 frequency include, but are not limited to:

<div style="text-align:center">

Severe Weather Watches & Warnings
Hospital Bypass, Closure or Diversion
Apparatus In/Out of Service or Relocation

</div>

5.0 CONCLUSION

5.1   This Advocacy Statement provides policy and direction for the use of the MABAS dispatch frequencies, IFERN (154.265 MHz) & IFERN2 (154.3025 MHz). All MABAS Divisions and member departments are encouraged to enforce the disciplined use of these frequencies as advocated herein.

Approved by the MABAS Executive Board on the 9th day of June, 2005.

MABAS ADVOCACY STATEMENT #11
GUIDELINES FOR USE OF THE MABAS TELECOMMUNICATOR LIST SERVE

1.0 PURPOSE

    1.1   To clarify the general policies and procedures related to the use of the MABAS Telecommunicators' List Serve.

2.0 SCOPE

    2.1   This Advocacy Statement applies to all MABAS Divisions, member Departments and all telecommunicators that are involved in the handling of MABAS radio traffic.

3.0 BACKGROUND

    3.1   The telecommunicators that support the MABAS activities have expressed a desire to have an electronic method to contact each other in a List Serve environment.

    3.2   At the MABAS Telecommunicator's Conference in March, 2006, MABAS acknowledged the request to set up a communications network for telecommunicators.

    3.3   As a result the Communications Committee has developed this work plan to address the implementation and oversight of this electronic communications system.

4.0 POLICY / PROCEDURES

    4.1   Membership in the List Serve shall be limited to Chief officers, Communications Supervisors and those telecommunicators that have involvement with the dispatching of MABAS alarms or equipment due to respond to the alarms.

    4.2   The List Serve Moderator shall review all requests for membership.

    4.3   Those individuals that don't meet the requirements set forth in paragraph 4.1 will be notified that they are not eligible for membership.

    4.4   All messages will be reviewed by the List Serve Moderator prior to it being posted on the List Serve.

    4.5   The MABAS Telecommunicator List Serve Moderator is authorized to grant membership to the List Serve and is also empowered to remove individuals for violating these guidelines or otherwise abusing the List Serve.

5.0 LIST SERVE GUIDELINES

    5.1   The MABAS Communications Committee establishes this set of guidelines for the use of the MABAS Telecommunicator List Serve:

    5.2   Keep it Legal – do not distribute, or disseminate defamatory, infringing, obscene, or other unlawful material or information. Do not use the MABAS Telecommunicator List Serve to publish or post material protected by intellectual property laws, rights of privacy or publicity or any other applicable law unless you own or control the rights thereto or have received all necessary consents. Where quotes are used or references are made appropriate credit shall be

given to the original author. MABAS is not responsible for any use of anything you say or post. All applicable federal, state and local laws apply.

5.3 It is the responsibility of the sender to, when appropriate; identify any restrictions on the distribution of information in the posting.

5.4 Do not post any materials (including software and other information) that could harm (or is designed to harm) other users' computers or would allow others to inappropriately access software or Web sites. MABAS does not allow posting or use of computer programs that contain destructive features such as: viruses, worms, Trojan horses, or bots for the use of scrolling, showing multiple screens, and other activities that can be disruptive to online communication.

5.5 Do not use the MABAS Telecommunicator List Serve to threaten, harass or abuse others.

5.6 Refrain from all expressions that reflect negatively on yourself and others.

5.7 MABAS does not tolerate disruptive activity online, such as persistent off-topic comments and postings or statements that incite others to violate these guidelines or participate in illegal activities. .

5.8 Falsely impersonating an MABAS Board Member, employee or any other person with the intent to mislead or cause harm to others is forbidden.

5.9 The MABAS Telecommunicator List Serve shall not be used as a forum to advertise or promote any products or services for sale or lease, etc. General discussions concerning actual experiences with a product or service are permitted.

APPENDIX AA
MABAS Recommended Practice #1
USE OF IREACH ON TOLLWAYS

1.0   **PURPOSE**

       1.1   To coordinate emergency response communications for incidents that occur on the Illinois State Toll Highway (Tollway) Authority.

2.0   **SCOPE**

       2.1   This recommended practice applies to all MABAS member agencies that may respond to incidents on the Tollway system.

       2.2   This procedure is intended to comply with the operational concepts provided under and in support of the National Incident Management System (NIMS), the Unified Command System (UCS) and Incident Command System (ICS) principles.

3.0   **BACKGROUND**

       3.1   The Illinois fire service, in cooperation with the Illinois State Police and the Tollway Authority, desire to improve communications interoperability, command and control or emergency scenes on the Tollway System. Utilizing the inter-disciplinary, inter-jurisdictional coordination radio channel commonly known as IREACH (Illinois Radio Emergency Assistance Channel), responders from various disciplines can readily communicate unit-to-unit to locate incidents, coordinate resources, and improve public safety on the Tollway system.

4.0   **GUIDELINE**

       4.1   Member agencies are encouraged to review and/or acquire radio authorization from the Federal Communications Commission for the IREACH frequency (155.055 MHz)

       4.2   Affected member agencies are encouraged to participate in incident management and coordination training as presented by the Illinois Fire Chiefs Association, Illinois State Police and the Tollway Authority.

       4.3   Member agencies are encouraged to utilize IREACH to locate incidents on the Tollway System by communicating with Tollway staff and units of the Illinois State Police, coordinate necessary resources suited to specific incidents, and coordinate large-scale incidents requiring multiple response disciplines.

5.0   **CONCLUSION**

       5.1 The use of the IREACH frequency by fire, EMS, Illinois State Police, and response staff of the Illinois State Toll Highway Authority will greatly enhance the management of emergencies on the Tollway system in Illinois.

1.0   PURPOSE
      To provide an operational guideline for member fire departments and their personnel for establishing an effective communications component for the Incident Action Plan at both routine and major emergency incidents.

2.0   SCOPE
      This recommended practice is applicable to all MABAS member agencies. This procedure is intended to comply with the operational concepts provided under and in support of the National Incident Management System (NIMS), the Unified Incident Command System (UCS) and Incident Command System (ICS) principles.

3.0   BACKGROUND
      The MABAS organization has grown significantly over the past few years in size, geographical service area and responsibility. The complex nature of the various incidents that member fire departments respond to has mandated the use of additional mutual aid dispatch, coordination and tactical operations radio channels to effectively manage these incidents. As a result, the MABAS Communications Committee has developed this recommended practice to assist local Incident Commanders with the task of implementing a communications plan at all emergency incidents and training evolutions.

4.0   DEFINITIONS:
 Dispatch – Local frequency(ies) normally used for daily dispatch (base/mobile) of emergency calls.

IFERN – MABAS mutual aid dispatch and response frequency (base/mobile). (154.265 MHz

IFERN2 – Alternate base/mobile mutual aid dispatch frequency (154.3025 MHz). (Reserved for future implementation and/or major incident coordination.)

Fireground – Low power tactical frequencies used for on-scene communications between the Incident Commander and units working the incident.

RED	153.830 MHz			GOLD	153.8375 MHz*
WHITE	154.280 MHz			BLACK	154.2725 MHz*
BLUE	154.295 MHz			GRAY	154.2875 MHz*
					* Narrow-band Frequency

IREACH – Illinois Radio Emergency Assistance Channel (155.055 MHz). Used for interdisciplinary coordination.

MERCI – VHF ambulance to hospital frequencies. (155.280, 155.340 & 155.400 MHz)

5.0 RECOMMENDED PRACTICE

The following guideline may be used by a fire service Incident Commander to develop the communications component of an Incident Action Plan. The narrow-band frequencies listed herein (IFERN2, GOLD, BLACK & GRAY Firegrounds) may create operational difficulties due to interference with adjacent wide-band frequencies. Use of these frequencies may be limited until full migration to narrow-band operation is completed.

Please consider that it is extremely difficult for a single individual to effectively monitor more than 1 or 2 radio frequencies during an emergency incident. As the communications plan becomes more complex, the Incident Commander must rely on aides to assist with communications management at the Command Post.

Occasionally, a jurisdiction may respond to multiple simultaneous incidents, or neighboring jurisdictions may experience simultaneous emergencies. Use of a single fireground channel for both incidents may be counterproductive and cause unnecessary harmful interference. Incident Commanders at subsequent incidents should consider adjusting their communications plan and assign a different primary fireground channel to avoid operational difficulties.

The recommended frequency use matrix on the following page can be used as a quick reference sheet for the Incident Commander or other communications personnel within the Command Post.

Routine Incidents	Box-2nd Alarm	Major Alarms	Mass Casualty	Fire with MCI	Tech Rescue	Haz-Mat	Water Rescue	Major Disaster	
IC to Local Dispatcher	Dispatch	IFERN	IFERN	IFERN	IFERN	IFERN	IFERN	IFERN	IFERN
IC to MABAS Dispatcher		IFERN	IFERN	IFERN	IFERN	IFERN	IFERN	IFERN	IFERN
Staging		IFERN	IFERN	IFERN	IFERN	IFERN	IFERN	IFERN	IFERN
Scene/First Due Companies	RED	RED	RED	RED	RED	RED	RED	RED	RED
Interior/Fire Companies	RED	RED	RED		RED				RED
Operations Officer	RED	RED	RED	RED	RED	RED			RED
Safety Officer	RED	RED	RED	RED	RED	RED	RED	RED	RED
RIT Team(s)	RED	RED	RED		RED				RED
Accountability	RED	RED	RED	RED	RED	RED	RED	RED	RED
Water Supply	RED or BLUE	BLUE	BLUE		BLACK	BLUE	BLUE		BLACK
Aerial Operations	RED or BLUE	BLUE	BLUE		BLACK	BLUE	BLUE		BLACK
Logistics		WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	GRAY
Public Information Officer		WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	GRAY
Liaison Officer(s)		WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	GRAY
Support Functions		WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	GRAY

Extrication & Manpower				RED					RED
Triage Sector				BLUE	BLUE				BLUE
Treatment Sector				BLUE	BLUE				BLUE
Transport to Ambulances				IFERN	IFERN				IFERN
Transport to Med Control				MERCI	MERCI				MERCI
Helicopter Landing Zone	IREACH	IREACH	IREACH	IREACH	IREACH	IREACH	IREACH	IREACH	IREACH
SRT Entry Teams						GOLD			GOLD
Haz-Mat Officer							RED		
Haz-Mat Resource							BLACK		
Haz-Mat Entry/Back-up							BLACK		
Divemaster/Dive Operations								BLUE	
Boat Operations								BLUE	
Base Camp Operations									IFERN2
Fire Operations									RED
SRT Operations									WHITE
EMS Operations									BLUE
Interdisciplinary Coordination	IREACH	IREACH	IREACH	IREACH	IREACH	IREACH	IREACH	IREACH	IREACH

6.0 CONCLUSION

The foregoing provides a uniform approach for MABAS members to develop the communications component of an Incident Action Plan. This is only a recommended practice and local conditions must be taken into consideration when implementing this procedure.

Approved by the MABAS Communications Committee on August 16, 2004.

1.0 Purpose

1.1 To help coordinate the design of MABAS Box Alarm Cards for new and existing MABAS Divisions using one standardized template containing all of the required information needed to dispatch a MABAS Box Alarm and for the MABAS Box Alarm to be easily understood by emergency personnel and telecommunicators.

2.0 Scope

2.1 This recommended practice applies to all new and existing MABAS Divisions wishing to have one template for use throughout their division that incorporates the traditional style card with recommended changes designed to make dispatching MABAS Box Alarms easier for telecommunicators and emergency service personnel.

3.0 Background

3.1 MABAS is currently experiencing rapid growth throughout numerous locations, with many new divisions being formed. Many of these new divisions have limited internal experience to draw upon in developing box alarm cards and have requested assistance with the design process as well as a generic box alarm card in an electronic format. The MABAS Communications Committee was tasked with this responsibility at the MABAS Executive Board meeting in February 2004. The MABAS Communications Committee has developed a standard template that contains all of the required elements needed to be able to design a MABAS Card and to be able to dispatch MABAS resources easily by a primary or secondary dispatch center.

3.2 Several changes to the **"traditional style"** card have been recommended to make is easier for telecommunicators and emergency service personnel to understand and reduce the number of errors during alarm dispatch. Those changes include:

3.2.1 The four-letter abbreviations for each department should be discontinued and full names are to be used. 8-point Arial Font should be the minimum size font used.

3.2.2 The "**Change of Quarters**" section on the older style cards has been a source of many errors and omissions. The new style card incorporates the "**Change of Quarters**" into the top portion of the alarm response area.

3.2.2.1 Some departments may bring "**Change of Quarters**" companies into their stations and leave them there to handle further calls in their jurisdiction, throughout all the alarms. Others departments may bring "**Change of Quarters**" companies into the stations and move them to the scene on the next level of alarm. These are both allowable alternatives.

3.2.2.2 "**Change of Quarters**" companies will be placed in the column for "**Change of Quarters**" and the station where they are expected to go will be placed in parenthesis. The address and directions to get to that station should be placed in the "**Information**" section.

3.2.3   The new style card does not limit the number of alarms that each department can have on their card. Each division can add as many alarms, per card as desired, by adding additional rows to the card.

3.2.4   It is recommended that the last level of alarm be reserved for "**Interdivisional Request**" and that level should include the "**1ˢᵗ CHOICE, 2ⁿᵈ CHOICE and 3ʳᵈ CHOICE**" of which divisions to call when extra equipment is needed. (This request does not refer to, or should be confused with, the State of Illinois' Mutual Aid Response Flow Plan.)

3.2.5   The bottom of the card should be kept for addresses for the change of quarter's stations and other pertinent information or instructions.

3.2.6   The card is designed to be placed in a clear plastic sheet protector with reinforced holes and to be placed in a 3-ring binder and/or on computer. Do not punch holes in the box alarm card, as that will make is harder to read and duplicate.

4.0   Guideline

4.1   Each box alarm card should include the following: The top section of the card is to include: "**Department Name, Box Alarm Type, Effective Date, MABAS Division #, Box Alarm #, Location or Area of Alarm, and Authorized Signature**." There will be no other changes to this area.

4.1.1   The next section is the "**Local Dispatch Area**" and will be the responsibility of the local dispatch authority. This is not a **MABAS** area and may include: "**Still, Full Still, Working Still, Automatic Aid, General Alarm, Etc.**" This area may be any number of rows that you choose for your division or department.

4.1.2   "**Change of Quarters**" has been added to the Still Alarm areas, and may be filled in, left blank, or deleted.

4.1.3   The Box Alarm Card is designed around a progressive structure. **It is imperative that all still alarm companies be dispatched by the local dispatch authority prior to or simultaneously with the MABAS Box Alarm request.** It is not the responsibility of the MABAS Dispatcher to dispatch companies listed on a Box Alarm Card before the Box Alarm level.

4.1.4   The next section is the "**MABAS BOX ALARM**". This is where MABAS dispatching starts. Column headings may include: "**Alarm Level, Engines, Tenders, Trucks, Squads, EMS, Chiefs, Special Equipment, Change of Quarters**", or others for specialized cards and as standardized throughout a Division.

4.1.4.1 Department names are to be spelled out and are to be in at least 8-point, Arial font.

4.1.4.2 Card is to be read left to right. Departments are to be sent to the scene unless in the "**Change of Quarters**" area.

4.1.4.3 In **"Change of Quarters"**, the department listed is to be sent to the fire station listed in parenthesis. The addresses should be given in the information portion of the box alarm card, or on back of the card.

4.1.4.4 In the **"Special Equipment or Other"** column, apparatus or equipment that does not fall into the primary categories can be listed.

4.2 The number of alarm levels is left to the individual fire department to determine. MABAS starts at the **"Box Alarm Level"**, proceeds to the **"2ⁿᵈ Alarm Level, 3ʳᵈ Alarm Level, 4ᵗʰ Alarm Level, 5ᵗʰ Alarm Level"**, and may continue through any number of levels that are put on the cards.

4.2.1 The last level of alarm be reserved for **"Interdivisional Request"** and that level should include the **"1ˢᵗ CHOICE, 2ⁿᵈ CHOICE and 3ʳᵈ CHOICE"** of which divisions to call when extra equipment is needed. (This request does not refer to, or should be confused with, the State of Illinois' Mutual Aid Response Flow Plan.)

4.3 The bottom of the card should be left for **"Special Instructions or Information"**. Included in the Special Instructions should be the addresses for the stations listed in the **"Change of Quarters"** and any other pertinent information.

4.4 To eliminate clutter and confusion on box alarm cards, the following information **should not** be included on the front of box alarm cards:

4.4.1 Telephone numbers for responding agencies. The MABAS System is designed to use radio alerting on the **"IFERN Frequency"** (Interagency Fire Emergency Radio Network) to notify departments due to respond. This includes departments within adjacent MABAS divisions.

4.4.2 Area for Response District Maps. If a department desires to include maps for the response jurisdiction, change of quarters stations locations, etc., this information may be included on the back of the box alarm card.

4.4.3 Shaded Areas or Color Copies. The use of shading or color, other than black, is discouraged for various features on box alarm cards may limit the readability of the document after photocopying.

4.5 New cards should be sent out to all of the departments on the cards for a minimum thirty-(30) day review/approval process. They shall be stamped draft, not signed and the effective date left blank. If there is no response from a department within the 30 day period, it will be understood that the draft cards are acceptable. After the 30-day review/approval process, cards shall be formalized by the addition of the authorized signature (actual or electronic) and effective date on each card. They shall then be sent out to each department in the Division and all departments listed on the cards at least seven (7) days prior to the effective date. It is the responsibility of each department to notify and copy their dispatch center.

4.6 To facilitate timely and accurate requests for a MABAS Box Alarm by a stricken agency, each Department should maintain current copies of the Box Alarm Cards for their Department in all emergency response vehicles.

4.7   Each MABAS Division may decide on a standardized numbering system for box alarm cards for use in their division. The following numbers should be reserved by MABAS for system wide use:

4.7.1   BOX #888, METRA/PACE BUS/Transportation Emergencies

4.7.2   BOX #999, Weapons of Mass Destruction

4.8   Examples of different types of Box Alarms, using the standard format, are included as guides to completing new cards for your divisions.

5.0   Appendices
5.1   Sample Box Alarm Card

SAMPLE MUTUAL AID BOX ALARM CARD

DEPARTMENT NAME:	BOX ALARM TYPE: **STRUCTURE FIRE**	EFFECTIVE DATE:	MABAS DIVISION
BOX ALARM #:	LOCATION OR AREA:	AUTHORIZED SIGNATURE:	

LOCAL DISPATCH AREA:

ALARM LEVEL	ENGINES	TENDERS	TRUCKS	SQUADS	EMS	CHIEFS	SPECIAL EQUIPMENT	CHANGE OF QUARTERS (STA #)
STILL								

MABAS BOX ALARM:

ALARM LEVEL	ENGINES	TENDERS	TRUCKS	SQUADS	EMS	CHIEFS	SPECIAL EQUIPMENT	CHANGE OF QUARTERS (STA #)
BOX								
2ND								
3RD								
4TH								
5TH								
6TH								
7TH								
INTERDIVISIONAL REQUEST	1ST CHOICE			2ND CHOICE			3RD CHOICE	
INFORMATION								

MABAS Recommended Practice #4
GUIDELINE FOR PROVIDING AN AUDIBLE EMERGENCY WARNING
AT EMERGENCY INCIDENT SCENES

1.0   PURPOSE
    1.1   To provide guidance and direction to member departments and Incident Commanders with regards to audible warning signals for use at incident scenes to alert personnel of impending or imminent danger.

2.0   SCOPE
    2.1   This Recommended Practice applies to all MABAS Divisions and member departments.

3.0   BACKGROUND
    3.1   Various procedures have been enacted by member departments and MABAS to alert personnel at emergency scenes of impending or imminent dangers including flashover, building collapse, downed power lines, missing firefighter, change from offensive to defensive operations and many other potentially dangerous events or situations. The need to coordinate audible warning sounds including the use of apparatus airhorns or audible tone encoders on command radios has become apparent. It is also recognized that an Incident Commander should also have the ability to emit an attention getting signal on fireground frequencies to warn firefighters of impending danger.

This Recommended Practice does not address the use of MDC1200 or other automatic number identification protocols or the use of "emergency" buttons on mobile and portable radios.

Recommended Practice #4 will provide uniform guidance for all MABAS member departments at both MABAS and non-MABAS incidents.

4.0   POLICY/PROCEDURE
    4.1   AIR HORNS: The Incident Commander shall order the airhorns to sound on one or more fire apparatus at an incident scene when necessary to immediately warn all personnel working at the incident of the need to immediately evacuate the building or hot zone. Examples of when airhorns should be sounded include, but not limited to, impending collapse, flashover, explosion, hazardous atmosphere, etc. Apparatus Operators shall sound the airhorns, using a sequence of airhorn blasts that shall not exceed 10 seconds in length followed by a 10 second period of silence, and it is done 3 times. (NFPA 1500, A.8.1.11)

    4.2   RADIO ALERT TONE: When so equipped, the Incident Commander shall cause an audible alert tone of 1500 Hz to be transmitted for 3 to 5 seconds over all fireground frequencies in use. Examples for the use of the radio alerting tone include, but are not limited to:
        4.2.1   EVACUATION: Anytime during an incident when it is necessary to immediately evacuate a building, trench, confined space, hazardous area or other position when such evacuation is necessary to protect the safety of personnel working the incident.

        4.2.2   DANGEROUS SITUATION: Alerting personnel to an unusual condition or situation at the scene of an emergency that puts personnel at increased risk. These situations may include, but not be limited to, downed power line, unstable wall or structure, vicious animal, or other safety related situation or message.

4.2.3   PERSONNEL ACCOUNTABILITY REPORT: To alert crews working an emergency incident of an impending Personnel Accountability Report.

4.2.4   EMERGENCY TRAFFIC: To alert personnel to clear a fireground or other frequency due to a request to pass emergency traffic to the incident commander.

4.3   RADIO ALERT TONE PROCEDURE: When an Incident Commander determines that an emergency exists or a potential situation exists that adversely affects the safety of personnel working at the incident, and the Incident Commander has the capability to transmit a radio alert tone, the following process is hereby recommended:

4.3.1   FIREGROUND FREQUENCIES: Starting with the primary tactical frequency (firefighters in greatest danger) the Incident Commander shall cause the Radio Alert Tone to be transmitted followed immediately by the phrase "ALL UNITS STAND BY FOR EMERGENCY TRAFFIC" followed immediately by a description of the emergency or situation. For example, the Safety Officer determines that a structure has become unstable and the Incident Commander orders an evacuation of interior companies. The following transmission should be broadcast on each fireground channel in use at the incident: Transmit Radio Alert Tone; announce "EMERGENCY TRAFFIC – ALL PERSONNEL EVACUATE THE BUILDING DUE TO IMPENDING COLLAPSE" (The alert tone and announcement should be repeated.)

4.3.2   IFERN/DISPATCH FREQUENCY: The Incident Commander may elect to transmit the radio alert tone and emergency traffic message over IFERN, assuming a MABAS box alarm incident is in progress, or over the local dispatch channel. The format for transmission of emergency traffic over the IFERN or local dispatch channel should follow the same procedure as described in Section 4.3.1.

CONCLUSION

5.1   This Recommended Practice provides policy and direction for the use of audible warning tones and airhorns at the scene of an emergency incident.