

# State of Missouri Field Operations Guide (MO-FOG)



*Version 1.0 April 2012*



## Letter of Introduction

The Missouri Field Operations Guide (MO-FOG) is a collection of technical reference material to aid Communications Unit personnel in establishing solutions to support communications during emergency incidents and planned events. The MO-FOG includes information from the Missouri Tactical Interoperable Communications Plan (TICP) and data from other Missouri communications documents; formatted as a pocket-sized guide.

The MO-FOG contains local, territory, and national interoperability channels. These channels should be programmed into all public safety radios in the appropriate frequency band. If geographic restrictions on some channels preclude their use within the Missouri, they may offer an interoperability option when responding out of territory where the restrictions do not apply.

Please send updates, corrections, or comments about the MO-FOG or requests for additional copies to Steve Devine.

Thank you,

*Steve Devine*



## About this Guide

### Points of Contact for this Guide

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The purpose of the Missouri Field Operations Guide (MO-FOG) is to be used to increase efficiency in establishing interoperable communications during incidents, create a consistent knowledge base of interoperable communications channels and networks, and provide a helpful tool for pre-planning and interoperable communications training and exercises. This document is intended to help alleviate many of the problems or short comings during communications globally:

1. Incident using radio channels in more than one band (Low Band, VHF, UHF, and/or 700/800 MHz, etc)
2. Incident using different radio bands via console or gateway patches
3. Unable to communicate critical information due to radio congestion
4. Unfamiliar with radio system(s) or assigned radio functionality
5. Instructions and assignments not clear
6. Have no or inadequate communication with your crew members or supervisor
7. Dispatch to dispatch channel patching
8. Inadequate number of tactical channels available or assigned
9. Multiple conversations on the same talk group or channel

The focus of this document is on regional, state and federal interoperable and mutual aid systems, and assets.

Please send updates, corrections, or comments about the MO-FOG to Steve Devine.

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## 1 Interoperable Communications Commonalities

### 1.1 Agency Responsibilities and Rights

Agencies will retain the following responsibilities and rights:

- Agencies are responsible for complying with MOUs and Agreements developed through the state in coordination with their respective jurisdictions.
- Authorized representatives of agencies participating in this plan have the authority to request the use of equipment, including systems and mobile assets, in accordance with Standard Operating Procedures (SOPs).
- Where applicable, agencies will be responsible for consistently maintaining, testing, and exercising connectivity to interoperable communications.
- Incident Commander(s) or designee(s) retain the right to decide how to utilize interoperable communications.

## 1.2 Prioritization and Shared Use of Regional Interoperability Assets

The Incident Commander, or designee, in conjunction/cooperation with their counterparts in other involved agencies, will have the authority to request the use of interoperable assets. Once Incident Command has been established, Command Staff or the Communications Unit Leader (when designated) direct the further coordination and delegation of the interoperable communications assets assigned to the event or incident in question.

When the same resources are requested for two or more incidents, resource assignments should be based on the priority levels in accordance with the National Incident Management System (NIMS).

In the event of multiple simultaneous incidents within the same priority, the resources should be allocated according to NIMS.

In response to events or incidents which cross over jurisdictional boundaries, there potentially could be competing demands and priorities for interoperable communications assets.

Agencies should activate needed interoperable assets to respond effectively and to minimize any negative impact on surrounding agencies or jurisdictions. Specifically, interoperable communications should be established with the following techniques, listed in increasing order of complexity:

1. Utilize *face-to-face* communications wherever appropriate. For example, the co-location of all Command and General Staff at the Incident Command Post (ICP) provides the best direct communications and reduces the demand on interoperability resources

2. Employ **local communications assets** until such time as either those assets become taxed or inadequate based on the nature and/or scope of the incident
3. If response agencies are users of a shared system, utilize that **shared system** to establish interoperable communications
4. If response agencies operate on disparate systems, utilize **shared or mutual aid channels** to establish interoperable communications.
5. If response agencies do not share systems or channels, utilize a **gateway** solution to establish interoperable communications
6. Where interoperable communications cannot otherwise be established between response agencies, utilize **swap or cache radios** to establish operable communications for responders
7. If no other method of interoperability can be established, relay communications through **staff members**

When the same resources are requested for two or more incidents, resource assignments should be based on the priority levels listed below:

1. Disasters, large scale incidents, or extreme emergencies requiring mutual aid or interagency communications
2. Incidents where imminent danger exists to life or property
3. Incidents requiring the response of multiple agencies
4. Pre-planned events requiring mutual aid or interagency communications
5. Incidents involving a single agency where supplemental communications are needed for agency use
6. Drills, tests and exercises

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In the event of multiple simultaneous incidents within the same priority level, the Incident Commander or Unified Command (if formed) shall have allocation authority and shall allocate resources with the following priorities in mind:

1. Incidents with the greatest level of exigency (e.g., greater threat to life or property, more immediate need, etc.) have priority over less exigent incidents
2. Agencies with single/limited interoperable options have priority use of those options over agencies with multiple interoperable options

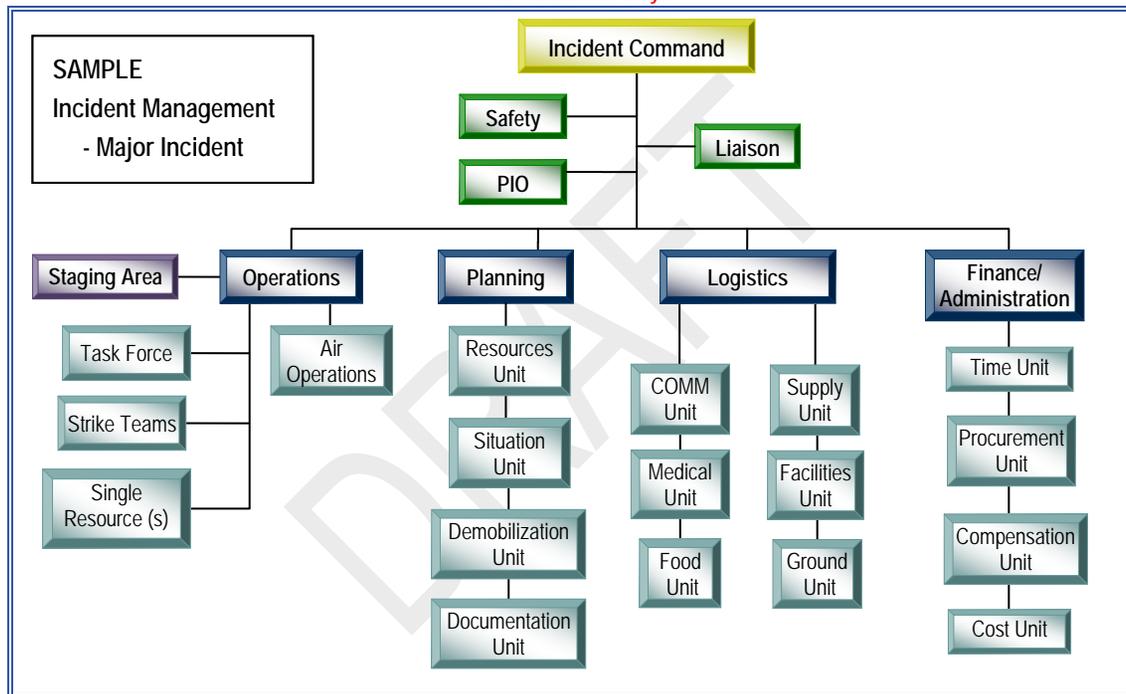
When at all possible, agencies already using an interoperable asset during an event should not be redirected to another resource.

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### 1.3 Incident Command System (ICS)

ICS is a key feature of NIMS. It is a widely applicable management system designed to enable effective, efficient incident management by integrating a combination of facilities, equipment, personnel, procedures and communications operating with a common organizational structure. ICS is used to organize on-scene operations for a broad spectrum of incidents/events and guides the process for planning, building and adapting that structure. ICS is based on the command principles of unity of command, chain of command, span of control, delegation of authority and division of labor. The five major functional areas of ICS are command, operations, planning, logistics and finance/administration. The Incident Management – Major Incident flow can be found on the following page.

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## 1.5 Position Descriptions

### At an Incident/Event

The Communications Unit is in the Service Branch of the Logistics Section of the ICS. Listed below are the Communication Unit Organization position titles and responsibilities.

**Communications Unit Leader (COML)** –Manages the technical and operational aspects of the Communications Function during an incident or event. Develops National Incident Management System (NIMS)/Incident Command System (ICS) Form 205 Incident Radio Communications Plan and supervises the communication unit.

**Incident Communications Technician (COMT)** – Deploys advanced equipment and keeps it operational throughout the incident/event.

**Technical Specialist (THSP)** – Allows for the incorporation of personnel who may not be formally certified in any specific NIMS/ICS position. THSPs may include Local Agency Radio Technicians (as opposed to the COMT), Telephone Specialists, Gateway Specialists, Data/IT Specialists, and or Cache Radio Specialists.

**Incident Communications Center Manager (INCM)** – Supervises the operational aspects of the Incident Communications Center (ICC) (Mobile Unit and/or Fixed Facility). During an incident, the ICC is designed to absorb incident traffic in order to separate that traffic from the day-to-day activities of the dispatch center. The ICC is typically located at the Incident Command Post (ICP) in a fixed site, tent, trailer, mobile communications unit.

**Radio Operator (RADO)** - Staffs a radio at the ICC and is responsible for documenting incoming radio and telephone messages. Incident Dispatchers or Tactical Dispatchers are used as RADOs.

**Dispatch Center or Emergency Operations Center (EOC)**

**Communications Coordinator (COMC)** – The COMC will work with the COMC to coordinate communications with other dispatch centers and the incident communication plan. Locally, the jurisdictional dispatch center supervisor or dispatcher will act as the Communications Coordinator. Coordinators may also be located at the county, region, state, and/or federal level.

**1.6 ICS Personnel Common Responsibilities**

The following is a checklist applicable to all ICS personnel.

- a. Receive assignment from your agency, including:
  - 1. Job assignment, e.g., Strike Team designation, overhead position, etc.
  - 2. Resource order number and request number
  - 3. Reporting location
  - 4. Reporting time
  - 5. Travel instructions
  - 6. Any special communications instructions, e.g. travel channel
- b. Upon arrival at the incident, check in at designated Check-in location. Check-in may be found at:
  - 1. Incident Command Post
  - 2. Base or Camps
  - 3. Staging Areas
  - 4. Helibases
  - 5. If you are instructed to report directly to a line assignment, check in with the Division/Group Supervisor
- c. Receive briefing from immediate supervisor.
- d. Acquire work materials.
- e. Conduct all tasks in a manner that ensures safety and welfare of you and your co-workers.
- f. Organize and brief subordinates.

- g. Know the assigned channel(s) for your area of responsibility and ensure that communication equipment is working properly
- h. Use clear text and ICS terminology (no codes) in all radio communications. All radio communications to the Incident Communications Center will be addressed: "(Incident Name) Communications", e.g., "Webb Communications".

### 1.7 Area Commander Position Checklist

The Area Commander is responsible for the overall direction of incident management teams assigned to the same incident or to incidents in close proximity. This responsibility includes ensuring that conflicts are resolved, compatible incident objectives are established and strategies are selected for the use of critical resources.

Area Command also has the responsibility to coordinate with local, state, federal, and volunteer organizations and agencies that are operating within the Area.

- a. Obtain briefing from the agency executive(s) on agency expectations, concerns, and constraints
- b. Obtain and carry out delegation of authority from the agency executive for overall management and direction of the incidents within the designated Area Command
- c. If operating as a Unified Area Command, develop working agreement for how Area Commanders will function together
- d. Delegate authority to Incident Commanders based on agency expectations, concerns, and constraints
- e. Establish an Area Command schedule and timeline
- f. Resolve conflicts between incident "realities" and agency executive "wants"

- g. Establish appropriate location for the Area Command facilities
- h. Determine and implement an appropriate Area Command organization
- i. Determine need to Technical Specialists to support Area Command
- j. Obtain incident briefing and Incident Action Plans from Incident Commanders
- k. Assess incident situations prior to strategy meetings
- l. Conduct a joint meeting with all Incident Commanders
- m. Review objectives and strategies for each incident
- n. Periodically review critical resource needs
- o. Maintain a close coordination with the agency executive
- p. Establish priorities for use of critical resources
- q. Review procedures for interaction within the Area Command
- r. Approve Incident Commanders' requests for and release of critical resources
- s. Coordinate and approve demobilization plans
- t. Maintain log of major actions/decisions

### **1.8 Incident Commander Position Checklist**

The Incident Commander's responsibility is the overall management of the incident. On most incidents, a single Incident Commander carries out the command activity; however, Unified Command may be appropriated. The Incident Commander is selected by qualifications and experience.

The Incident Commander may have a Deputy, who may be from the same agency, or from an assisting agency. Deputies may

also be used at section and branch levels of the ICS organization. Deputies must have the same qualifications as the person for whom they work for, as they must be ready to take over that position at any time.

- a. Review Common Responsibilities (Section 0)
- b. Assess the situation and/or obtain a briefing from the prior Incident Commander
- c. Determine Incident objectives and strategy
- d. Establish the immediate priorities
- e. Establish an Incident Command Post
- f. Consider the need for Unified Command
- g. Establish an appropriate organization
- h. Ensure planning meetings are scheduled as required
- i. Approve and authorize the implementation of an Incident Action Plan
- j. Ensure that adequate safety and personnel accountability measures are in place
- k. Coordinate activity for all Command and General Staff
- l. Coordinate with key people and officials
- m. Approve requests for additional resources or for the release of resources
- n. Keep agency administrator informed of incident status
- o. Approve the use of trainees, volunteers, and auxiliary personnel
- p. Authorize release of information to the news media
- q. Ensure Incident Status Summary (ICS Form 209) is completed and forwarded to appropriate higher authority
- r. Order the demobilization of the incident when appropriate

- s. Maintain Unit/Activity Log (ICS Form 214)

### **1.9 Communications Unit Leader (COML) Position Checklist**

1. Obtain briefing from the Logistics Section Chief or Service Branch Director
2. Organize and staff unit as appropriate
  - a. Assign Communications Center Manager and Lead Incident Dispatcher
  - b. Assign Message Center Manager and ensure adequate staff is assigned to answer phones and attend to fax machines
3. Assess communications systems/channels in use; advise on communications capabilities/limitations
4. Develop and implement effective communications procedures (flow) internal and external to the incident/Incident Command Post
5. Assess Incident Command Post phone load and request additional lines as needed
6. Obtain copy of Communications Resource Availability Worksheet (ICS Form 217A) which provides RF information for the applicable area. If ICS Form 217A has not been completed or is unavailable, it should be prepared)
7. Prepare and Implement Incident Communications Plan (ICS Form 205):
  - a. Obtain current organizational chart
  - b. Determine most hazardous tactical activity; ensure adequate communications
  - c. Make communications assignments to all other Operations elements, including volunteer, contract, or mutual aid
  - d. Determine command communications needs

- e. Establish and post any specific procedures for use of Incident Command Post communications equipment
- 8. Include cellular phones and pagers in Incident Communications Plan (ICS Form 205T) if appropriate:
  - a. Determine specific organizational elements to be assigned to telephones
  - b. Identify all facilities/locations with which communications must be established (shelters, press area, liaison area, agency facilities, other governmental entities' Emergency Operations Center [EOCs], etc.), and identify and document phone numbers
  - c. Determine which phones and what numbers should be used by specific personnel and their purpose. Assign specific telephone numbers for incoming calls, and report these numbers to staff and off-site parties such as other local jurisdictions, state and federal agencies
  - d. Do not publicize OUTGOING call lines
- 9. Activate, serve as contact point, and supervise the integration of volunteer radio organizations into the communications system
- 10. Ensure radio and telephone logs are available and being used
- 11. Determine need and research availability of additional nets and systems:
  - a. Order through Supply Unit after approval by Section Chief or appropriate official
  - b. Federal systems
  - c. Additional radios and other communications devices, including repeaters, radio-telephone interconnects and satellite down-link capabilities may be available through VDEM, FEMA or the National Interagency Fire Center (NIFC)
- 12. Document malfunctioning communications equipment, facilitate repair

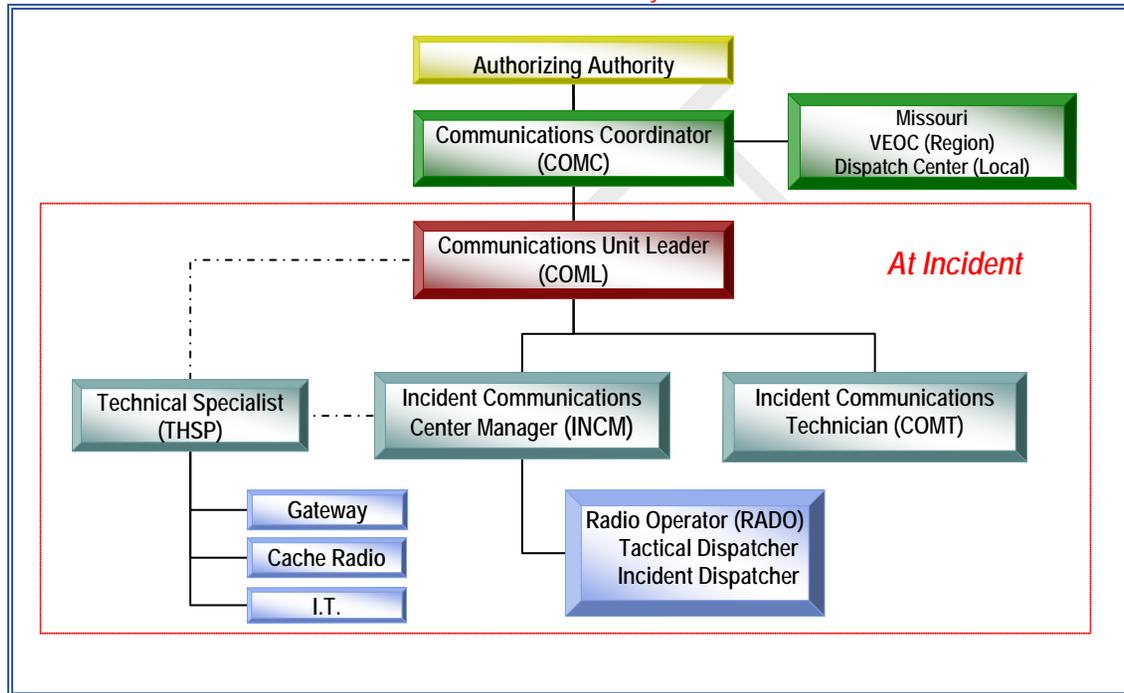
13. Establish and maintain communications equipment accountability system
14. As required, provide technical information regarding:
  - a. Adequacy of communications system currently in use
  - b. Geographic limitations of communications equipment
  - c. Equipment capabilities
  - d. Amount and types of equipment available
  - e. Anticipated problems in the use of communications equipment
15. Estimate Unit needs for expected operations
16. As required, request relief personnel
17. Provide briefing to relief personnel on current activities and unusual situations
18. Document all activity on Unit/Activity Log (ICS Form 214)

#### **1.10 Requests for Communications Assets**

1. A jurisdiction needing support of a communications asset will contact their local Emergency Management Agency (EMA).
2. The local EMA will contact the State EOC (SEOC) and make the request. The SEOC will open a mission and start official documentation of the incident
3. The SEOC will contact the closest and most appropriate state or local asset that can support the request, determine the availability and estimated time of deployment. This will normally be routed through the local EOC
4. The SEOC will then report the response information back to the requesting local EMA
5. The SEOC will verify that the responding asset, the requesting local EMA, and the on-scene commander all have a common mutual aid channel
6. The responding asset will coordinate with the EMA for staging of the asset or to determine a reporting location

7. The responding communications asset will establish communications as directed once on scene
8. The IC will designate a Communications Unit Leader (COML) who will prepare an Incident Radio Communications Plan (ICS Form 205). The ICS 205 will be provided to the Communications asset. The Communications Plan will also include phone numbers for incident personnel and other significant locations
9. If necessary, the IC will designate law enforcement personnel to provide security at the site of the Communications asset
10. The communications asset will rapidly prepare to activate interoperable communications necessary to support on-scene incident personnel
11. The communications asset should be prepared to remain on scene staffed by trained communications personnel until released by the Incident Commander or designee

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## 2 Interoperability Assets

Refer to regional Standard Operating Procedures (SOPs) for policies and procedures on asset usage.

### 2.1 General Rules of Use

- **National Incident Management System** – Implement an Incident Command System (ICS) compliant with the National Incident Management System (NIMS) when using any regional interoperability resource
- **National Response Framework** – Use the appropriate ICS forms needed to document a given incident, in accordance with the National Response Framework (NRF)
- **Plain Language** – Avoid using radio codes, acronyms, and abbreviations as they may cause confusion between agencies. Ensure that all verbal requests for assistance or backup specify the reason for the request
- **Unit Identification** – Announce your home agency prior to announcing your unit identifier during interoperable communication situations

#### *Applies to Gateways*

- **Encryption** – All encrypted radio users must operate in a “clear” mode when a gateway is used, unless otherwise arranged in advance. **Never assume encryption carries across the gateway**
- **Patching** – Gateway devices should not patch Federal Communication Commission (FCC) frequencies to Military frequencies
- **Monitoring** – The Incident Commander, or their designee, will ensure that each activated patch is monitored consistently while in use

- **Technical Support** – Qualified gateway technical specialists (THSPs) or communications technicians (COMTs) must be available for on-scene support during the deployment of mobile gateways

***Applies to Radio Caches***

- **Charging** – Cache radios must be fully charged and ready for immediate deployment when requested. Deployed equipment includes extra batteries and/or battery chargers to support extended deployments
- **Radio Identification** - Each radio in a radio cache will have a unique identification number (e.g., serial number, etc.) for inventory tracking
- **Technical Support** – Qualified radio cache THSPs or COMTs must be available for on-scene support during the deployment, if the requesting agency cannot act in this capacity
- **Equipment Return** – The requesting agency is responsible for the return of any cache radios/MCUs/equipment in the condition that they were issued/received. Responsibilities for lost or damaged equipment lie with the appropriate agency as dictated by existing Memoranda of Agreement (MOAs)

***Applies to Mobile Command Units (MCUs)***

- **Equipment Return** – The requesting agency is responsible for the return of any MCU in the condition that it was received and/or as dictated by existing Memoranda of Agreement (MOAs)
- **Resource Modifications** – The requesting agency is not allowed to change anything in the MCU without written permission of the owning agency. Should a modification need to be made, (i.e., changing an electric end) the requesting agency will incur costs of any modification/restoration

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- **Operational Expenses** – Responsibility for operational expenses should be determined prior to the deployment of personnel or equipment or within an MOU

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## 2.2 Shared Channels

The convention calls for frequency lists to show four digits after the decimal place, followed by either an "N" or a "W", depending on whether the frequency is narrow or wide band. Mode refers to either "A" or "D" indicating analog or digital (e.g. Project 25). All channels are shown as if programmed in a portable or mobile radio. Repeaters must be programmed with the RX and TX reversed.

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### 2.2.1 Shared Interoperability Channels

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A					Frequency Band			Description		
Channel Configuration	Channel Name / Trunked Radio System Talk Group	Eligible Users	Mobile RX Freq	N / W	RX Tone / NAC	Mobile TX Freq	N / W	TX Tone / NAC	Mode A, D, or M	Notes

### 2.3 Non-Federal National Interoperability Channels

The convention calls for frequency lists to show four digits after the decimal place, followed by either an "N" or a "W", depending on whether the frequency is narrow or wide band. Mode refers to either "A" or "D" indicating analog or digital (e.g. Project 25). All channels are shown as if programmed in a portable or mobile radio. Repeaters must be programmed with the RX and TX reversed. Unless stated otherwise, all frequencies are MHz except CTCSS tones, which are in Hz.

## A.1 VHF Low Band

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A					Frequency Band VHF Low Band			Description Discipline Specific Channels		
Channel Configuration	Channel Name / Trunked Radio System Talk Group	Eligible Users	Mobile RX Freq	N / W	RX Tone / NAC	Mobile TX Freq	N / W	TX Tone / NAC	Mode A, D, or M	Notes
Duplex	LLAW1	LE	39.4600	W	156.7	45.8600	W	156.7	A	
Simplex	LLAW1D	LE	39.4600	W	156.7	39.4600	W	156.7	A	
Duplex	LFIRE2	Fire	39.4800	W	156.7	45.8800	W	156.7	A	
Simplex	LFIRE2D	Fire	39.4800	W	156.7	39.4800	W	156.7	A	
Duplex	LLAW3	LE	45.8600	W	156.7	39.4600	W	156.7	A	
Simplex	LLAW3D	LE	45.8600	W	156.7	45.8600	W	156.7	A	
Duplex	LFIRE4	Fire	45.8800	W	156.7	39.4800	W	156.7	A	
Simplex	LFIRE4D	Fire	45.8800	W	156.7	45.8800	W	156.7	A	

## A.2 VHF High Band

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A				Frequency Band VHF HIGH BAND				Description Interoperable Tactical Channels		
Channel Configuration	Channel Name / Trunked Radio System Talk Group	Eligible Users	Mobile RX Freq	N / W	RX Tone / NAC	Mobile TX Freq	N / W	TX Tone / NAC	Mode A, D, or M	Notes
Simplex	VCALL10	Any Public Safety	155.7525	N	156.7	155.7525	N	156.7	A	Calling/Hailing
Simplex	VTAC11	Any Public Safety	151.1375	N	156.7	151.1375	N	156.7	A	Tactical Simplex
Simplex	VTAC12	Any Public Safety	154.4525	N	156.7	154.4525	N	156.7	A	Tactical Simplex
Simplex	VTAC13	Any Public Safety	158.7375	N	156.7	158.7375	N	156.7	A	Tactical Simplex
Simplex	VTAC14	Any Public Safety	159.4725	N	156.7	159.4725	N	156.7	A	Tactical Simplex
Duplex	VTAC33	Any Public Safety	159.4725	N	136.5	151.1375	N	136.5	A	Tactical Repeater
Duplex	VTAC34	Any Public Safety	158.7375	N	136.5	154.4525	N	136.5	A	Tactical Repeater
Duplex	VTAC35	Any Public Safety	159.4725	N	136.5	158.7375	N	136.5	A	Tactical Repeater
Duplex	VTAC36	Any Public Safety	151.1375	N	136.5	159.4725	N	136.5	A	Tactical Repeater
Duplex	VTAC37	Any Public Safety	154.4525	N	136.5	158.7375	N	136.5	A	Tactical Repeater
Duplex	VTAC38	Any Public Safety	158.7375	N	136.5	159.4725	N	136.5	A	Tactical Repeater

VTAC33-38 Recommended for deployable tactical repeater user only (FCC Station Class FB2T).  
VTAC36-38 are preferred: VTAC33-35 should be used only when necessary due to interference.

### A.3 VHF Public Safety Mutual Aid and Common Channels

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A				Frequency Band VHF High Band			Description Discipline Specific Channels			
Discipline specific channels: VFIRE, VMED, VLAW - Rules for use of the channels are contained in 47 CFR 90.20. Link: <a href="http://edocket.access.gpo.gov/cfr_2010/octa/tr/pdf/47cfr90.20.pdf">http://edocket.access.gpo.gov/cfr_2010/octa/tr/pdf/47cfr90.20.pdf</a>										
Channel Configuration	Channel Name / Trunked Radio System Talk Group	Eligible Users	Mobile RX Freq	N / W	RX Tone / NAC	Mobile TX Freq	N / W	TX Tone / NAC	Mode A, D, or M	Notes
Simplex	VFIRE21 *	Fire Mutual Aid	154.2800	N	156.7	154.2800	N	156.7	A	Tactical
Simplex	VFIRE22 ****	Fire Mutual Aid	154.2650	N	156.7	154.2650	N	156.7	A	Tactical
Simplex	VFIRE23 *****	Fire Mutual Aid	154.2950	N	156.7	154.2950	N	156.7	A	Tactical
Simplex	VFIRE24	Fire Mutual Aid	154.2725	N	156.7	154.2725	N	156.7	A	Tactical
Simplex	VFIRE25	Fire Mutual Aid	154.2875	N	156.7	154.2875	N	156.7	A	Tactical
Simplex	VFIRE26	Fire Mutual Aid	154.3025	N	156.7	154.3025	N	156.7	A	Tactical
Simplex	VLAW31 ***	LE Mutual Aid	155.4750	N	156.7	155.4750	N	156.7	A	Tactical
Simplex	VLAW32	LE Mutual Aid	155.4825	N	156.7	155.4825	N	156.7	A	Tactical
Simplex	VMED28 **	EMS Mutual Aid	155.3400	N	156.7	155.3400	N	156.7	A	Tactical
Simplex	VMED29	EMS Mutual Aid	155.3475	N	156.7	155.3475	N	156.7	A	Tactical
Simplex	SAR	SAR Common	155.1600	N	156.7	155.1600	N	156.7	A	Tactical

## A.4 UHF Band

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A				Frequency Band UHF			Description Interoperable Tactical Channels			
Channel Configuration	Channel Name / Trunked Radio System Talk Group	Eligible Users	Mobile RX Freq	N / W	RX Tone / NAC	Mobile TX Freq	N / W	TX Tone / NAC	Mode A, D, or M	Notes
Duplex	UCALL40	Any Public Safety	453.2125	N	156.7	458.2125	N	156.7	A	
Simplex	UCALL40D	Any Public Safety	453.2125	N	156.7	453.2125	N	156.7	A	
Duplex	UTAC41	Any Public Safety	453.4625	N	156.7	458.4625	N	156.7	A	
Simplex	UTAC41D	Any Public Safety	453.4625	N	156.7	453.4625	N	156.7	A	
Duplex	UTAC42	Any Public Safety	453.7125	N	156.7	458.7125	N	156.7	A	
Simplex	UTAC42D	Any Public Safety	453.7125	N	156.7	453.7125	N	156.7	A	
Duplex	UTAC43	Any Public Safety	453.8625	N	156.7	458.8625	N	156.7	A	
Simplex	UTAC43D	Any Public Safety	453.8625	N	156.7	453.8625	N	156.7	A	

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### A.5 700 MHz Band

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A				Frequency Band 700 MHz			Description Interoperable Tactical Channels			
Channel Configuration	Channel Name / Trunked Radio System Talk Group	Eligible Users	Mobile RX Freq	N / W	RX Tone / NAC	Mobile TX Freq	N / W	TX Tone / NAC	Mode A, D, or M	Notes
Duplex	7CALL50	Calling Channel	769.24375	N	F7E	799.24375	N	293	D	
Simplex	7CALL50D	Calling Channel	769.24375	N	F7E	769.24375	N	293	D	
Duplex	7CALL70	Calling Channel	773.25625	N	F7E	803.25625	N	293	D	
Simplex	7CALL70D	Calling Channel	773.25625	N	F7E	773.25625	N	293	D	
Duplex	7DATA69	Mobile Data	770.74375	N	F7E	800.74375	N	293	D	
Simplex	7DATA69D	Mobile Data	770.74375	N	F7E	770.74375	N	293	D	
Duplex	7DATA89	Mobile Data	774.75265	N	F7E	804.75625	N	293	D	
Simplex	7DATA89D	Mobile Data	774.75265	N	F7E	774.75265	N	293	D	
Duplex	7FIRE63	Fire	769.89375	N	F7E	799.89375	N	293	D	
Simplex	7FIRE63D	Fire	769.89375	N	F7E	769.89375	N	293	D	
Duplex	7FIRE64	Fire	769.99375	N	F7E	799.99375	N	293	D	

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COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A				Frequency Band 700 MHZ		Description Interoperable Tactical Channels				
Channel Configuration	Channel Name / Trunked Radio System Talk Group	Eligible Users	Mobile RX Freq	N / W	RX Tone / NAC	Mobile TX Freq	N / W	TX Tone / NAC	Mode A, D, or M	Notes
Simplex	7FIRE64D	Fire	769.99375	N	F7E	769.99375	N	293	D	
Duplex	7FIRE83	Fire	773.50625	N	F7E	803.50625	N	293	D	
Simplex	7FIRE83D	Fire	773.50625	N	F7E	773.50625	N	293	D	
Duplex	7FIRE84	Fire	773.85625	N	F7E	803.85625	N	293	D	
Simplex	7FIRE84D	Fire	773.85625	N	F7E	773.85625	N	293	D	
Duplex	7GTAC57	Other Public Service	770.99375	N	F7E	800.99375	N	293	D	
Simplex	7GTAC57D	Other Public Service	770.99375	N	F7E	770.99375	N	293	D	
Duplex	7GTAC77	Other Public Service	774.85625	N	F7E	804.85625	N	293	D	
Simplex	7GTAC77D	Other Public Service	774.85625	N	F7E	774.85625	N	293	D	
Duplex	7LAW61	LE	770.39375	N	F7E	800.39375	N	293	D	
Simplex	7LAW61D	LE	770.39375	N	F7E	770.39375	N	293	D	
Duplex	7LAW62	LE	770.49375	N	F7E	800.49375	N	293	D	
Simplex	7LAW62D	LE	770.49375	N	F7E	770.49375	N	293	D	

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COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A				Frequency Band 700 MHZ		Description Interoperable Tactical Channels				
Channel Configuration	Channel Name / Trunked Radio System Talk Group	Eligible Users	Mobile RX Freq	N / W	RX Tone / NAC	Mobile TX Freq	N / W	TX Tone / NAC	Mode A, D, or M	Notes
Duplex	7LAW81	LE	774.00625	N	F7E	804.00625	N	293	D	
Simplex	7LAW81D	LE	774.00625	N	F7E	774.00625	N	293	D	
Duplex	7LAW82	LE	774.35625	N	F7E	804.35625	N	293	D	
Simplex	7LAW82D	LE	774.35625	N	F7E	774.35625	N	293	D	
Duplex	7MED65	EMS	769.39375	N	F7E	799.39375	N	293	D	
Simplex	7MED65D	EMS	769.39375	N	F7E	769.39375	N	293	D	
Duplex	7MED66	EMS	769.49375	N	F7E	799.49375	N	293	D	
Simplex	7MED66D	EMS	769.49375	N	F7E	769.49375	N	293	D	
Duplex	7MED86	EMS	773.00625	N	F7E	803.00625	N	293	D	
Simplex	7MED86D	EMS	773.00625	N	F7E	773.00625	N	293	D	
Duplex	7MED87	EMS	773.35625	N	F7E	803.35625	N	293	D	
Simplex	7MED87D	EMS	773.35625	N	F7E	773.35625	N	293	D	
Duplex	7MOB59	Mobile Repeater	770.89375	N	F7E	800.89375	N	293	D	

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COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A				Frequency Band 700 MHZ		Description Interoperable Tactical Channels				
Channel Configuration	Channel Name / Trunked Radio System Talk Group	Eligible Users	Mobile RX Freq	N / W	RX Tone / NAC	Mobile TX Freq	N / W	TX Tone / NAC	Mode A, D, or M	Notes
Simplex	7MOB59D	Mobile Repeater	770.89375	N	F7E	770.89375	N	293	D	
Duplex	7MOB79	Mobile Repeater	774.50625	N	F7E	804.50625	N	293	D	
Simplex	7MOB79D	Mobile Repeater	774.50625	N	F7E	774.50625	N	293	D	
Duplex	7TAC51	General Public Safety	769.14375	N	F7E	799.14375	N	293	D	
Simplex	7TAC51D	General Public Safety	769.14375	N	F7E	769.14375	N	293	D	
Duplex	7TAC52	General Public Safety	769.64375	N	F7E	799.64375	N	293	D	
Simplex	7TAC52D	General Public Safety	769.64375	N	F7E	769.64375	N	293	D	
Duplex	7TAC53	General Public Safety	770.14375	N	F7E	800.14375	N	293	D	
Simplex	7TAC53D	General Public Safety	770.14375	N	F7E	770.14375	N	293	D	
Duplex	7TAC54	General Public Safety	770.64375	N	F7E	800.64375	N	293	D	
Simplex	7TAC54D	General Public Safety	770.64375	N	F7E	770.64375	N	293	D	
Duplex	7TAC55	General Public Safety	769.74375	N	F7E	799.74375	N	293	D	
Simplex	7TAC55D	General Public Safety	769.74375	N	F7E	769.74375	N	293	D	

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COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A				Frequency Band 700 MHZ		Description Interoperable Tactical Channels				
Channel Configuration	Channel Name / Trunked Radio System Talk Group	Eligible Users	Mobile RX Freq	N / W	RX Tone / NAC	Mobile TX Freq	N / W	TX Tone / NAC	Mode A, D, or M	Notes
Duplex	7TAC56	General Public Safety	770.24375	N	F7E	800.24375	N	293	D	
Simplex	7TAC56D	General Public Safety	770.24375	N	F7E	770.24375	N	293	D	
Duplex	7TAC71	General Public Safety	773.10625	N	F7E	803.10625	N	293	D	
Simplex	7TAC71D	General Public Safety	773.10625	N	F7E	773.10625	N	293	D	
Duplex	7TAC72	General Public Safety	773.60625	N	F7E	803.60625	N	293	D	
Simplex	7TAC72D	General Public Safety	773.60625	N	F7E	773.60625	N	293	D	
Duplex	7TAC73	General Public Safety	774.10625	N	F7E	804.10625	N	293	D	
Simplex	7TAC73D	General Public Safety	774.10625	N	F7E	774.10625	N	293	D	
Duplex	7TAC74	General Public Safety	774.60625	N	F7E	804.60625	N	293	D	
Simplex	7TAC74D	General Public Safety	774.60625	N	F7E	774.60625	N	293	D	
Duplex	7TAC75	General Public Safety	773.75625	N	F7E	803.75625	N	293	D	
Simplex	7TAC75D	General Public Safety	773.75625	N	F7E	773.75625	N	293	D	
Duplex	7TAC76	General Public Safety	774.25625	N	F7E	804.25625	N	293	D	

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COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A				Frequency Band 700 MHZ		Description Interoperable Tactical Channels				
Channel Configuration	Channel Name / Trunked Radio System Talk Group	Eligible Users	Mobile RX Freq	N / W	RX Tone / NAC	Mobile TX Freq	N / W	TX Tone / NAC	Mode A, D, or M	Notes
Simplex	7TAC76D	General Public Safety	774.25625	N	F7E	774.25625	N	293	D	

## A.6 800 MHz Band

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A					Frequency Band 800 MHZ			Description Interoperable Tactical Channels		
Channel Configuration	Channel Name / Trunked Radio System Talk Group	Eligible Users	Mobile RX Freq	N / W	RX Tone / NAC	Mobile TX Freq	N / W	TX Tone / NAC	Mode A, D, or M	Notes
Duplex	8CALL90	Any Public Safety	851.0125	W	156.7	806.0125	W	156.7	A	
Simplex	8CALL90D	Any Public Safety	851.0125	W	156.7	851.0125	W	156.7	A	
Duplex	8TAC91	Any Public Safety	851.5125	W	156.7	806.5125	W	156.7	A	
Simplex	8TAC91D	Any Public Safety	851.5125	W	156.7	851.5125	W	156.7	A	
Duplex	8TAC92	Any Public Safety	852.0125	W	156.7	807.0125	W	156.7	A	
Simplex	8TAC92D	Any Public Safety	852.0125	W	156.7	852.0125	W	156.7	A	
Duplex	8TAC93	Any Public Safety	852.5125	W	156.7	807.5125	W	156.7	A	
Simplex	8TAC93D	Any Public Safety	852.5125	W	156.7	852.5125	W	156.7	A	
Duplex	8TAC94	Any Public Safety	853.0125	W	156.7	808.0125	W	156.7	A	
Simplex	8TAC94D	Any Public Safety	853.0125	W	156.7	853.0125	W	156.7	A	

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## 2.4 Gateways

Gateway Name	Owning/Managing POC Information			Day-to-Day or Incident / Event	Make / Model	Fixed / Mobile	No. of Simultaneous Nets	No. of Ports
	Agency	Title	Phone					
<b>STATE ASSETS</b>								
<b>LOCAL ASSETS</b>								

2.5 Cache Radios

Radio Cache Name	Make / Model	Owning/Managing POC Information			Frequency Band	Qty
		Agency	Title	Phone		
<b>STATE ASSETS</b>						
<b>LOCAL ASSETS</b>						

2.6 Mobile Command Units

Unit ID/ Designator	Resource Type	Owning / Managing POC Information			Deployment Area
		Agency	Title	Phone	
<b>STATE ASSETS</b>					
<b>LOCAL ASSETS</b>					

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## Appendix A Missouri Regions

Figure A-1 Regions of Missouri



## Appendix B Standard Phonetic Alphabet

Character	International Phonetic	Law Enforcement Phonetic	Morse Code	Nautical	Sign
A	Alpha	Adam	•—		
B	Bravo	Boy	—•••		
C	Charlie	Charles	—•—•		
D	Delta	David	—••		
E	Echo	Edward	•		
F	Foxtrot	Frank	••—•		
G	Golf	George	—•—•		
H	Hotel	Henry	••••		
I	India	Ida	••		
J	Juliet	John	•—•—		
K	Kilo	King	—•—		
L	Lima	Lincoln	•—••		
M	Mike	Mary	— —		
N	November	Nora	—•		
O	Oscar	Ocean	— — —		

Character	International Phonetic	Law Enforcement Phonetic	Morse Code	Nautical	Sign
P	Papa	Paul	•- - - •		
Q	Quebec	Queen	- - - • -		
R	Romeo	Robert	• - • •		
S	Sierra	Sam	• • •		
T	Tango	Tom	- -		
U	Uniform	Union	• • -		
V	Victor	Victor	• • • -		
W	Whiskey	William	• - - -		
X	X-ray	X-ray	- • • -		
Y	Yankee	Young	- • - - -		
Z	Zulu	Zebra	- - - • •		

## Appendix C Reference Materials

### Reference Sources

- SAFECOM. <http://www.safecomprogram.gov>  
The *National Emergency Communications Plan* (NECP) is a strategic plan that sets goals and identifies key national priorities to enhance governance, planning, technology, training and exercises, and disaster communications capabilities. The NECP provides recommendations, including milestones, to help emergency response providers and relevant government officials make measurable improvements in emergency communications over the next three years.
- National Public Safety Telecommunications Council (NPSTC). <http://www.npstc.org>  
The *National Interoperability Field Operations Guide* (NIFOG) is a technical reference for emergency communications planning and for radio technicians responsible for radios that will be used in disaster response. The NIFOG includes rules and regulations for use of nationwide and other interoperability channels, tables of frequencies and standard channel names, and other reference material; formatted as a pocket-sized guide for radio technicians to carry with them.  
<http://www.safecomprogram.gov/SAFECOM/nifog>
- Federal Emergency Management Agency (FEMA). <http://www.fema.gov>  
The Department of Homeland Security *Target Capability List* (TCL) describes the capabilities related to the four homeland security mission areas: Prevent, Protect, Respond, and Recover. It defines and provides

the basis for assessing preparedness. It also establishes national guidance for preparing the Nation for major all-hazards events, such as those defined by the National Planning Scenarios.

- NIMS Integration Center.  
<http://www.fema.gov/emergency/nims/>

The *National Incident Management System* (NIMS) provides a systematic, proactive approach to guide departments and agencies at all levels of government, nongovernmental organizations, and the private sector to work seamlessly to prevent, protect against, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life and property and harm to the environment.

- State.

## Appendix D Glossary and Terms

CAM	Communication Assets Mapping
CAS	Communication Assets Survey
CASM	Communication Assets Survey and Mapping
COMC	Communications Coordinator
COML	Communications Unit Leader
COMT	Incident Communications Technician
CTCSS	Continuous Tone-Coded Squelch System
DHS	Department of Homeland Security
EOC	Emergency Operations Center
FEMA	Federal Emergency Management Agency
FOG	Field Operations Guide
IC	Incident Commander
ICC	Incident Communications Center
ICP	Incident Command Post
ICS	Incident Command System
INCM	Incident Communications Center Manager
MACS	Multiagency Coordination System
MOUs	Memoranda of Understanding
NAC	Network Access Code
NECP	National Emergency Communications Plan
NIFC	National Interagency Fire Center
NIMS	National Incident Management System
NRF	National Response Framework
RADO	Radio Operator
SEOC	State Emergency Operations Center
SOP	Standard Operating Procedure
THSP	Technical Specialist
TICP	Tactical Interoperable Communications Plan
UASI	Urban Area Security Initiative

## Appendix E Web Site Links

American Radio Relay League (ARRL): [www.arrl.org](http://www.arrl.org)  
APCO International: [www.apcointl.org](http://www.apcointl.org)  
CASM: <https://franz.spawar.navy.mil>  
DHS OEC: [www.dhs.gov/xabout/structure/gc\\_1189774174005.shtm](http://www.dhs.gov/xabout/structure/gc_1189774174005.shtm)  
EMAC: [www.emacweb.org](http://www.emacweb.org)  
FCC Enforcement Bureau: [www.fcc.gov/eb](http://www.fcc.gov/eb)  
FCC Public Safety & Homeland Security Bureau: [www.fcc.gov/pshs](http://www.fcc.gov/pshs)  
FCC Special Temporary Authority (STA):  
[www.fcc.gov/pshs/services/sta.html](http://www.fcc.gov/pshs/services/sta.html)  
FCC ULS: [wireless.fcc.gov/uls](http://wireless.fcc.gov/uls)  
FEMA: [www.fema.gov](http://www.fema.gov)  
Government Emergency Telecommunications Service (GETS):  
[gets.ncs.gov](http://gets.ncs.gov)  
Homeland Security Information Network: [www.hsin.gov](http://www.hsin.gov)  
Lessons Learned Information Sharing: [www.llis.gov](http://www.llis.gov)  
National Emergency Communications Plan:  
[http://www.dhs.gov/xlibrary/assets/national\\_emergency\\_communications\\_plan.pdf](http://www.dhs.gov/xlibrary/assets/national_emergency_communications_plan.pdf)  
National Interagency Fire Center (NIFC): [www.nifc.gov](http://www.nifc.gov)  
National Interagency Incident Communications: [www.fs.fed.us/fire/niicd](http://www.fs.fed.us/fire/niicd)  
National Interoperability Information Exchange (NIIX): [www.niix.org](http://www.niix.org)  
National Regional Planning Council (NRPC) [www.nrpc.us](http://www.nrpc.us)  
National Response Framework Resource Center  
<http://www.fema.gov/emergency/nrf/>  
National Telecommunications & Information Admin (NTIA):  
<http://www.ntia.doc.gov>  
National Wildfire Coordinating Group (NWCG): [www.nwcg.gov](http://www.nwcg.gov)  
NIFOG: [www.safecomprogram.gov/SAFECOM/nifog](http://www.safecomprogram.gov/SAFECOM/nifog)  
NIMS Information: [www.fema.gov/emergency/nims](http://www.fema.gov/emergency/nims)  
NPSTC: [www.npstc.org](http://www.npstc.org)  
Radio Reference: [www.radioreference.com](http://www.radioreference.com)  
SAFECOM: [www.safecomprogram.gov](http://www.safecomprogram.gov)  
Wildland Fire Communications: [www.fireradios.net](http://www.fireradios.net)  
Wireless Priority Service (WPS): [wps.ncs.gov](http://wps.ncs.gov)





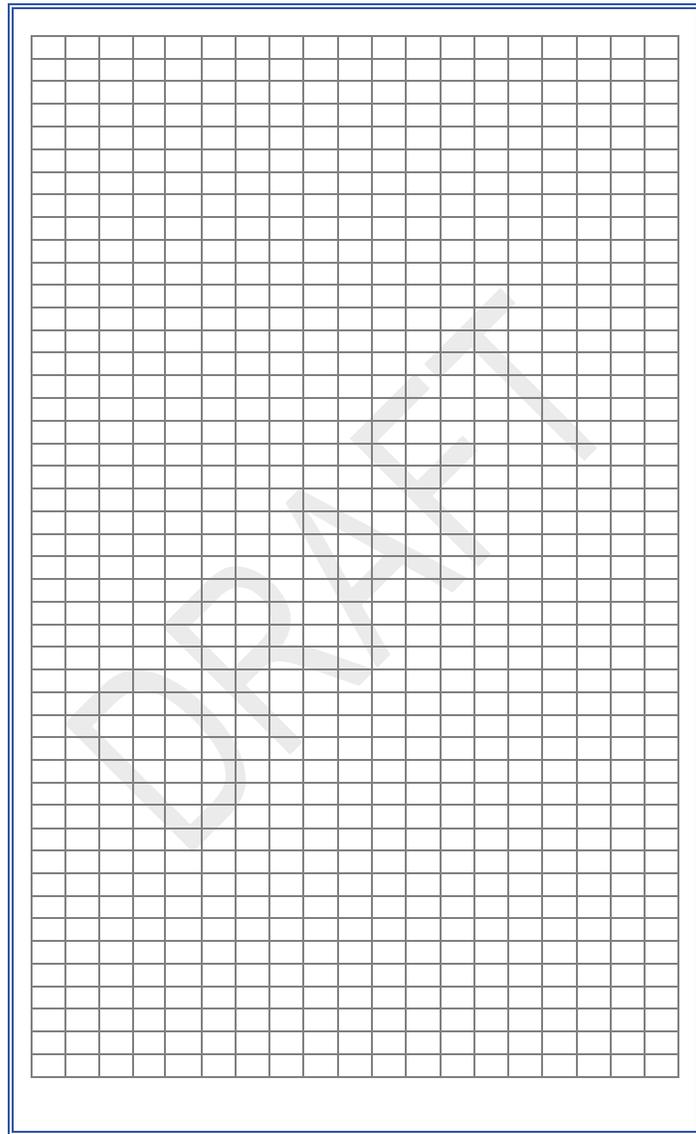
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NOTES

A large grid for taking notes, consisting of 20 columns and 30 rows. A faint, diagonal watermark reading "DRAFT" is visible across the center of the grid.

MO-FOG

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Missouri  
Tactical Interoperable Communications  
Field Operations Guide

MO-FOG