

Missouri District C ARES Emergency Operations Plan



November 15, 2024

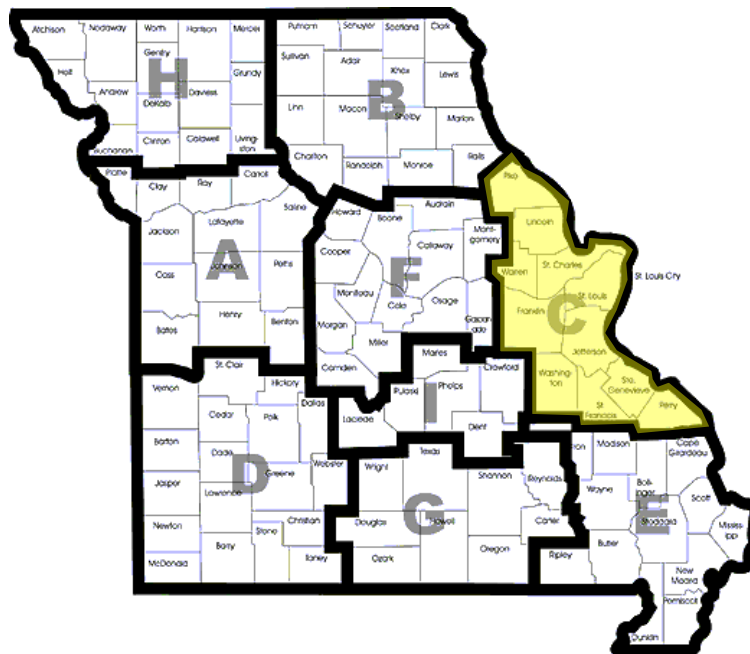
**Includes the Missouri Counties of Franklin, Jefferson, Lincoln, Perry, Pike,
St. Charles, St. Francois, St. Genevieve, St. Louis Metro, Warren, and
Washington**

Updated from 4/17/2010, 1/7/2011, 5/6/2011, 2/5/2012, 5/28/12& 10/22/12,
5/7/2013, 4/15/2014, 2/15/2017, 11/15/2024

1. Background

The Amateur Radio Service is authorized under Part 97 of the Federal Communications Commission's rules as a "voluntary non-commercial communication service, particularly with respect to providing emergency communications." The American Radio Relay League (ARRL) facilitates emergency communications through its Field Organization in general and the Amateur Radio Emergency Service® (ARES) in particular.

ARES® is the emergency branch of the ARRL Field Organization. It operates under the direction of the Section Manager, an elected position within the Field Organization. There are 71 sections in the United States and its possessions. The State of Missouri is comprised of one section. Within the Missouri Section, there are 9 districts and 115 local jurisdictions including all 114 Missouri counties and the City of St. Louis. Each of the local jurisdictions should have an Emergency Coordinator (EC) assigned. These designated ECs report to their respective District Emergency Coordinator (DEC) in each of the 9 districts who in turn report to the Section Emergency Coordinator (SEC). An updated listing of Missouri Section ARES leadership is kept at www.ares-mo.org and all members are encouraged to keep contact information for their respective areas on hand.



ARES operates to serve both governmental and non-governmental agencies through "Memoranda of Understanding" (MOUs). These MOUs are non-binding letters explaining the participating parties' roles and responsibilities and are initiated at both the national and section levels. Written MOUs need not be in place on a section or local level if they exist on a national level. District level MOUs must originate with the DEC and must be approved and signed by the DEC prior to their execution. MOUs transfer in-kind as new DEC's are appointed unless specifically cancelled by the incoming DEC. Agencies signatory to MOUs are referred to as "Served Agencies."

It is the intention of this plan to provide guidelines for training and usage of Amateur Radio volunteer communicators. The District C ARES organizations recognize the role of the Radio Amateur Civil Emergency Service (RACES) to government agencies as auxiliary communications links during times of emergency. It is also the intention of this plan to provide for adequate training and preparation of ARES operators to assist with the needs of the state and local government communications as required. It is the recommendation of this plan that all ARES operators register with their local civil defense agencies. This fulfills the mandatory registration requirements of Part 97 for RACES operators. It will also provide a larger contingent of qualified operators that may be utilized during emergencies regardless of affiliation with ARES or RACES. ARES operators should be prepared to assist any agency whether government or private sector as dictated by the needs of any given situation.

The DEC shall establish the training standards for new ARES volunteers and ensures that all new ARES operators complete a basic curriculum for emergency communications training. The DEC shall also recommend training to enhance operability with served agencies including familiarization with the National Incident Management System (NIMS). The DEC shall ensure that all jurisdictions within the district have adequate training available and regular exercises so that the district as a whole maintains a high degree of readiness.

2. Purpose

The purpose of this plan is to outline the ARES organization in the District C and present the basic information required for effective operation during an emergency. It will also contain addendums, which constitute the bulk of the "living document," as submitted by the various ECs. This plan is intended to be updated periodically, on an as-needed basis.

This plan is not intended to be the "last word" in emergency operations, but to be a resource in planning and operations. Recommendations for training are presented as a guideline to establish minimum standards for qualifying Amateur operators as ARES operators. ARES operator training will include items established by the Missouri State Emergency Management Agency for RACES operators. All training should be tailored to meet the needs of the agencies and communities served. Any additions, deletions or corrections affecting the section level should be brought to the attention of the DEC and District Training Coordinator. All submissions will be given due consideration for inclusion in updates as they are released.

3. Organization

The field services leadership of the Missouri Section is outlined as follows:

District C District Emergency Coordinator: William Grimsbo, N0PNP

Assistant District Emergency Coordinator for H.A.R.N.: Steve Wooten, KC0QMU

Assistant District C District Emergency Coordinator for Digital Modes and Networking: Ken Humbertson, W0KAH

District Public Information Coordinator (PIO): TBD

District Training Coordinator: Training Committee

4. Plan Activation

If an ARES member determines that a true emergency situation exists, every effort should be made to notify the appropriate county EC so that information concerning an incident may be relayed through the ARES structure and formal net operations established. If the appropriate county EC is unavailable, the chain of command should be followed. This does not preclude operators from contacting an emergency dispatch center or requesting assistance for smaller incidents, such as initial fire, medical, or traffic accident calls. Then, monitor the assigned Amateur Radio frequencies utilized in the affected area. This would include appropriate repeater output frequencies and predetermined high frequency net frequencies. If electrical service to a repeater is interrupted, stations should monitor the repeater output frequency or other predetermined simplex frequency, as directed by the local leadership and as outlined in this plan.

It is important that operators not interrupt existing emergency communications, but instead listen and only transmit if specific assistance is requested from that station or if a clear relay can be given in times of difficult copy. Operators should conform to established net protocols at all times. Deviating from established net procedures slows and confuses operations.

Calls for assistance from Served Agencies should be routed to the appropriate EC. This will result in the most efficient and appropriate response. Only under prior arrangements should individual ARES members "self-dispatch" on their own. All ARES members shall have contact information for their leadership.

Alerting:

When an emergency arises the first knowledge of it is usually at the county level. The immediate response to an emergency is to call up local ARES members and begin establishing communications. This may be accomplished by whatever system each EC has in place in their county. As soon as this is accomplished, the EC should inform his/her DEC and/or the SEC of the situation.

- The DEC and the SEC should be contacted by phone, if possible. In the event of any major disaster affecting all counties, the DEC and the SEC should monitor 3.963 or 7.263 MHz for updates and information if the local communications are inoperable. For everyone's assistance, the District C ARES roster (issued separately by the DEC) contains phone numbers, pagers, and E-mail addresses to facilitate communicating with them when the need arises. These additions are intended to enhance the ability of the ARES to provide communications assistance.

In the event of any widespread communications emergency, every EC and DEC should have an HF station monitoring the Missouri Emergency Services Net (MESN) on 3.963 MHz or 7.263 MHz. If the EC or DEC does not have the license privileges or capability to operate on these HF frequencies, they should make arrangements to appoint an ARES Member, which has this capability within their county/district/section, to monitor MESN.

Wide Area Nets:

Operations have proven the need for wide-area administrative nets. Once emergency operations have begun and it is apparent that the State Emergency Operations Center (EOC) will be involved, or that there will be more than one (1) county involved, an HF station should be included in the operation of the County Control Station (CCS) to check into and monitor MESN. The CCS can provide a link to the State EOC and allow inter-county communications and the coordination of manpower and assistance from other areas. This also allows the DEC and SEC to communicate directly with the area(s) involved.

EC Guidelines:

When an emergency exists within the District, or when the DEC or Assistant District Emergency Coordinator (ADEC) begins wide area operations, the following operations guide will be followed by all ECs:

1. Each EC will stay in their county and be ready and available to provide assistance, as requested, by the DEC or ADEC, if the DEC is not available.
2. NO EC will leave their county without the express consent of their DEC or the ADEC
3. ECs will be responsible for the following:
 - a. When there is an emergency in their county each EC is responsible for:
 - i. Determining the extent of the problem and evaluating their manpower needs
 - ii. Establish operations based on the guidelines in the District Emergency Operations Plan (EOP)
 - iii. Notify your DEC and/or ADEC of the emergency
 - iv. Establish operating schedules and request assistance from your DEC if required
 - v. Keep your DEC and the ADEC up to date on the situation in your county
 - vi. Keep logs and lists of involved Amateur operators
 - vii. Keep and retain time stamped logs of radio operations including all message traffic and tactical traffic passed by the NCO
 - viii. Accountability of all responding operators and retain arrival and departure times in the event log
 - ix. When operations are over, be sure all Amateur operators are notified and return home
 - b. When notified of an emergency in another county or ARES District:
 - i. Be ready to assemble assistance from your county, if requested
 - ii. Notify your AECs of the possible need to provide assistance to another area
 - iii. Maintain communications with your DEC and/or ADEC
 - iv. Notify your DEC and/or the ADEC of any changes in your location or any additional means of communicating with you
 - v. Notify the DEC and/or the ADEC of any changes that would affect contacting you
 - 1) Additional or different pager numbers
 - 2) Cell phone numbers
 - 3) Fax numbers

- 4) Frequencies being used in your county.
- c. When operations in your area are concluded be sure the following are accomplished prior to securing:
 - i. Make sure all ARES personnel are accounted for
 - ii. Pass along our appreciation to all participants
 - iii. Be sure all Amateur operators are notified that operations have concluded
 - iv. Collect reports and logs from your AECs and control stations
 - v. Make recommendations for certificates
 - vi. File a report with your DEC and the ADEC (including an electronic copy of all relevant logs)

Personnel Notification:

The following criteria should be observed for all call-ups of ARES Personnel. Please be sure to notify ALL the proper people immediately. In the event that a person is not available, notify either the alternate or the immediate superior of that person. This is vital to insure the proper operation of Amateur Radio during an emergency.

Occurrence:	Notify:
Public Service Events & Local Drills	Notify local ARES personnel
Emergency in your County	Notify local ARES Personnel, DEC/ADEC
Emergency Spreading to Adjacent County	Notify your DEC or ADEC adjacent County EC
When you need assistance	Notify your DEC and/or ADEC

When requesting assistance you will need to know the following information:

1. Number of Amateur operators required
2. How long will assistance be needed (you can estimate this)
3. What kind of equipment will be needed
4. What kind of physical and weather conditions in which they will be operating.

Logging:

ALL STATIONS WILL MAINTAIN COMPLETE LOGS.

All fixed stations operating during an emergency must maintain a complete log of their operations. This log will contain the TIME (local) of each message, the CALLSIGN of the contacted station and MESSAGE CONTENT of the message.

A copy of all FORMAL TRAFFIC will be kept and become part of the log.

Each log sheet will contain the OPERATING CALLSIGN, the location of the station, the call of the operator and be signed by the control operator.

Mobiles should log the STATION CALLED, TIME, and brief CONTENT of each message. Each log should contain the operator's call sign and date and operators signature.

ALL LOGS will be kept as a part of the ARES records. If an operator requires copies for his/her own log, copies should be made and the originals remain with the ARES EC. The ICS-133 form may be used for logging or any form that is dated with all entries referenced to local time. Refer to for the ICS-133 form in Appendix 1 of this EOP.

It is strongly recommended that all activated volunteers employ an ICS-214 Incident Activity Log to record all volunteer activities under any served agency or entity. This form is useful to the served agency in recovering costs of activations in the event that a disaster is declared. Refer to ICS-214 form in Appendix 1 of this EOP.

5. Training and Procedures

An annual test of the District C ARES will be conducted in conjunction with the National Simulated Emergency Test (SET). This test will be conducted at various levels throughout the district. It is also recommended that local exercises be held as determined to be appropriate and coordinated with district or local agency participation whenever possible. It is recommended that one exercise annually in addition to SET be held to exercise interoperability and cross-jurisdictional response protocols.

The ARRL has provided courses for Emergency Communications training and certification. The courses are presented in three levels. The ARRL Basic EmComm course is highly recommended as the basic training standard for new ARES members in Missouri. New ARES members are encouraged to complete the ARRL Basic EmComm training within one year of registration with their local ARES group. Information on Basic Emcomm certification can be found at <http://www.arrl.org/emergency-communications-training>. For a member to be considered for deployment, the ARRL Intermediate EmComm Course is recommended. Missouri Section leadership officials are strongly encouraged to complete the ARRL Advanced EmComm course.

In addition, the following courses are recommended for all ARES members:

FEMA Course #	Description
IS-100	Introduction to Incident Command System
IS-200	ICS for Single Resources and Initial Action Incidents
IS-700	National Incident Management System – An Introduction
IS-800	National Response Framework, An Introduction

Use latest alpha revisions of these materials

Additional tests, drills, nets, and training will be carried out as directed by the individual ECs. These sessions allow tailoring of training requirements to the specific needs of the areas and Served Agencies. Consideration should be given to the needs of adjacent areas for maintaining a high state of readiness for mutual aid support. It is recommended that neighboring districts be invited to participate in any exercises held on a district basis.

6. Directed Net Operations

Directed nets are the backbone of the ARES traffic handling operation. Directed nets operate with a Net Control Station (NCS) which maintains order on the net. Stations not directly involved with the operation of a directed net should stand by until the net is clear. At no time will a station transmit on a directed net except when called upon by the NCS, when checking in during a non-roll call period or when a station has bona fide emergency or priority traffic.

Most net operations relating to emergencies are “tactical” in nature. They are generally directed nets and messages sent can be qualified as any exchange that does not utilize an established message format or form. The National Traffic System (NTS) message format should be utilized whenever practical but is not mandatory. Its use has a long history of reliable and accurate message exchange, however, ARES personnel should use whatever priority based message format required by the served agency. ARES members should become proficient in this message format and its usage. Also, good operating technique and keeping a log of your operation is of primary importance to ARES and its served agency. Remember, it is the Served Agency’s needs that will determine what format will be used in any given situation.

7. Emergency Nets and Frequency Usage

The following frequencies are utilized within the District C for organized emergency nets. Contact may be attempted on these frequencies in the event that you are cut off from commercial telecommunications. Listen before transmitting! If an emergency net is in progress, do not interrupt! Monitor the frequency and follow the directions of the net control station.

HF

The Missouri Emergency Services Net (MESN) meets weekly on Sunday afternoon at 2:00 pm local time. Start listening after 1:45 pm local.

Frequency Net Name

3963.0 kHz. MESN

7263.0 kHz. MESN (daytime alternate)

VHF Packet

Many members are active on packet. Although this system is not currently the best means of communicating across the district, it may be a viable method of getting low priority traffic to its destination.

There are several packet nodes set up through the district and APRS nodes are also active. The primary frequency for APRS is 144.390(S). The frequency commonly used for ARES packet is 145.07(S).

Winlink

Winlink is a network of amateur stations designed to pass e-mail messages by amateur radio.

Winlink Express is the primary client software available for stations who set up at an EOC or in the field and allows one to connect to local or distant VHF/HF nodes in

order to send emails to others if Internet is not available to you either because you're away from a connection or your local connection is unavailable.

Winlink Express connects computer's sound cards to an HF radio via a variety of digital interfaces available or via simple homebrew designs. For VHF, you can use your standard Packet TNC or the same digital interface used for HF. If you have a CAT interface connected between your computer and radio, Winlink Express will even set your radio to the correct frequency and mode when you select the node to connect to.

The preferred mode of operation for Winlink on HF is VARA HF or Pactor 1, 2 or 3. These modes are faster and have the additional advantage that many EOC's may have Pactor modems available. Pactor is the mode used by Winlink to forward messages between gateways when the Internet is down. The drawback is that there is only one source for Pactor modems, SCS. The modems cost as much as a quality HF radio, so not a lot of hams have them.

The Winlink Express software resembles that of an email client where you can send/receive emails and even add small attachments. Keep in mind that using the radio to send emails is slower than your personal broadband Internet connection, but in an emergency, it can be much better than having nothing at all when needing to transmit critical information during an emergency.

To use Winlink Express, you need to register for a winlink.org email address by having a valid amateur callsign. You may register your callsign and download Winlink Express from www.winlink.org. Once installed, you can update the list of available nodes via the Internet for use when off-line. The information includes callsign, frequency and location.

The ARES Winlink Gateway in St. Charles County is W0ECA-10, located at the St. Charles County EOC. The W0ECA-10 Gateway operates with VARA FM and Packet on 145.05 MHz and 9600 Baud Packet on 441.025 MHz.

Another local Winlink Gateway in St Charles County is W0KAH-10 operating on 145.07 MHz and 441.025 MHz with VARA FM and Packet on 145.07 and 9600 Baud Packet and VARA FM on 441.025 MHz.

Additional Winlink Gateways in the district are:

N0MTH-10 145.07 St. Louis County EM48um

KD0ZEA-10 145.07 Franklin County EM48pj

KC0TPS-12 145.07 St. Louis County EM48vg

The latest gateway list and map are available from Winlink.org.

NBEMS (Narrow Band Emergency Message System)

NBEMS is a sound card-based system that offers excellent point to point communications and may be used as an alternative to Winlink Express. It can be used for both HF SSB as well as VHF/UHF FM. It has higher speed modes designed for VHF & UHF FM where the full audio passband is available for use. It has the additional capability of being useable through standard FM repeaters to extend useful range. Traditional packet requires digipeaters, or a network of nodes to extend range.

VHF / UHF Repeater Systems

VHF or UHF repeaters serve most communities within the section. This may be a viable means of contacting a desired person or someone who can in turn contact that person for you. ARES members are strongly encouraged to obtain a listing of the available repeaters in their area BEFORE an emergency occurs. An up to date list of coordinated repeaters in the District C is available on a website maintained by the Missouri Repeater Council (www.missourirepeater.org).

Some of the frequently used systems are in the following table:

Frequency (MHz)/ Offset	CTCSS	Description
147.240 (+)	141.3	Franklin County ARES
147.075/147.105 (+)	141.3	Jefferson County ARES
145.19 (-)		Lincoln County ARES
		Perry County ARES
145.490(-)	141.3	St. Charles County ARES
145.410(-)	100.0	St. Charles County ARES Backup
147.030(+)	100.0	St. Francois County ARES
146.625	100.0	St. Genevieve County ARES
146.970(-)	141.3	St. Louis City ARES
146.850(-)	141.3	St. Louis County ARES Primary
146.910(-)	141.3	St. Louis County ARES Secondary
147.330(+)	CSQ	Warren County ARES
147.195(+)	100.0	Washington County ARES

Some systems may be susceptible to commercial power interruption and may not function during times of widespread or localized power outage. When power outages occur and repeaters being utilized for emergency communications stop working, it is recommended that the output frequency of the repeater be use in 'simplex' mode along with relay stations to handle all traffic. Once the repeater system is on the air again, the transition back to repeater operation is simple. This method should be practiced whenever possible in order to understand the geographical challenges presented and for training operators in relay operations. It is highly recommended that all repeaters used for ARES operation should be equipped with emergency backup power systems.

VHF / UHF Simplex Frequencies

The Missouri section utilizes a set of predetermined simplex frequencies for "event or scene of action" operations. Use of the simplex mode minimizes exposure to power interruption, but also shortens effective communications range in most cases. A complete listing of frequencies and procedures for utilization can be found in the Missouri ARES Interoperability Document contained in Addendum 1. Some of the most commonly utilized frequencies district-wide are listed as follows:

Mnemonic	Frequency	TX CTCSS	Primary area of usage
NATCall	146.520	CSQ	National VHF Calling Frequency
HUCall	446.000	CSQ	Statewide – UHF CALL
HVCall	146.550	CSQ	Statewide – VHF CALL
HMCall	52.550	CSQ	Statewide – 6 M CALL

It is commonly known that ARES serves many agencies. These allocations minimize interference across jurisdictional boundaries in the event that an emergency may exist close to or across jurisdictions.

The following tables list the District C planned use of the MOARES Interoperability channel assignments for the various jurisdictions within District C. The VHF table is designed to use simplex frequencies developed in the Statewide Interoperability Plan so each EC has two VHF simplex frequencies available for his jurisdiction without causing interference with adjacent District C jurisdictions or Districts B, E, F, and I.

County	Primary Frequency	CTCSS Rx / Tx	Mnemonic	Secondary Frequency	CTCSS Rx / Tx	Mnemonic
Franklin	147.405	CSQ/100.0	HVTac8	145.700	CSQ/100.0	HVTac3
Jefferson	147.450	CSQ/100.0	HVTac9	146.400	CSQ/100.0	HVTac4
Lincoln	146.400	CSQ/100.0	HVTac4	147.405	CSQ/100.0	HVTac8
Perry	145.600	CSQ/100.0	HVTac1	147.405	CSQ/100.0	HVTac8
Pike	145.700	CSQ/100.0	HVTac3	146.595	CSQ/100.0	HVTac7
St. Charles	146.595	CSQ/100.0	HVTac7	146.505	CSQ/100.0	HVTac6
St. Francois	146.400	CSQ/100.0	HVTac4	146.450	CSQ/100.0	HVTac9
St. Genevieve	146.505	CSQ/100.0	HVTac6	146.595	CSQ/100.0	HVTac7
St. Louis City	146.445	CSQ/100.0	HVTac5	145.650	CSQ/100.0	HVTac2
St. Louis Co.	See Below					
Warren	145.650	CSQ/100.0	HVTac2	146.445	CSQ/100.0	HVTac5
Washington	145.650	CSQ/100.0	HVTac2	145.600	CSQ/100.0	HVTac1

St Louis County has also designated the following simplex frequencies for their use because of a larger need for additional frequencies:

HVTac10	147.510	CSQ/100.0	HVTac13	146.535	CSQ/100.0
HVTac11	146.415	CSQ/100.0	HVTac14	147.585	CSQ/100.0
HVTac12	147.435	CSQ/100.0			

UHF interoperability frequencies recommended by jurisdiction are listed below:

County	Primary Frequency	CTCSS Rx / Tx	Mnemonic	Secondary Frequency	CTCSS Rx / Tx	Mnemonic
Franklin	445.975	CSQ/100.0	HUTac4	446.025	CSQ/100.0	HUTac5
Jefferson	446.050	CSQ/100.0	HUTac6	446.075	CSQ/100.0	HUTac7
Lincoln	446.025	CSQ/100.0	HUTac5	446.050	CSQ/100.0	HUTac6
Perry	445.950	CSQ/100.0	HUTac3	445.975	CSQ/100.0	HUTac4
Pike	445.950	CSQ/100.0	HUTac3	445.975	CSQ/100.0	HUTac4
St. Charles	446.075	CSQ/100.0	HUTac7	446.100	CSQ/100.0	HUTac8
St. Francois	446.100	CSQ/100.0	HUTac8	445.925	CSQ/100.0	HUTac2
St. Genevieve	445.975	CSQ/100.0	HUTac4	445.900	CSQ/100.0	HUTac1
St. Louis City	446.025	CSQ/100.0	HUTac5	445.925	CSQ/100.0	HUTac2
St. Louis Co.	445.950	CSQ/100.0	HUTac3	445.975	CSQ/100.0	HUTac4
Warren	445.925	CSQ/100.0	HUTac1	445.900	CSQ/100.0	HUTac2
Washington	445.950	CSQ/100.0	HUTac3	445.900	CSQ/100.0	HUTac1

It is also suggested to try on local repeaters and national simplex calling frequencies if contact is not made on the frequencies outlined above.

ARES Missouri District C Organization and Contact Details

Refer to the latest Missouri Section Roster for detailed information

ICS Forms

ICS-214 Activity Log

The ICS-214 Activity Log should be employed to keep a record of deployments and activities during a deployment. The ICS-214 is easy to fill out and is a useful log of assignments and activities during a deployment.

ICS-133 Radio Log

All radio traffic on a net should be logged and retained. The ICS-133 is a useful log for this purpose and a copy should be given to the county EC at the end of a deployment or emergency net.

ICS-213 General Message Form

This form is typically used to request resources from an agency or entity. Not all radio traffic is a formal request for resources. The ICS-213 should only be used to log a formal message or formal request for resources.

These and other ICS forms with instructions are available from FEMA as fillable .pdf forms at:

<https://training.fema.gov/icsresource/icsforms.aspx>

