

**RADIO AMATEUR CIVIL EMERGENCY SERVICE
(RACES)
STATE OF ILLINOIS
JULY 2010**

**SUGGESTED OPERATIONAL GUIDELINES FOR LOCAL
RACES PROGRAMS**

Forward

This document is intended to establish a Suggested Operational Guideline (SOG) for operation of the Radio Amateur Civil Emergency Service (RACES) within the State of Illinois. It is in no way intended to restrict the operations or decisions of local governments. Further, it is hoped that each local government will expand upon this plan by developing it's own area SUGGESTED OPERATIONAL GUIDELINES.

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CHAPTER 1

General Information

1-1. Purpose.

This Standard Operating Guideline (SOG) provides guidance to local governments that utilize Radio Amateur Civil Emergency Services (RACES) as a means of adjunct emergency communications.

1-2. Applicability and Scope.

- a. The provisions of this SOG are applicable to local governments that utilize RACES in emergencies.
- b. In cases of conflict, Federal Communications Commission (FCC) Rules and Regulations will take precedence over the provisions of this SOG.

1-3 Authorities.

- a. The Communications Act of 1934, Section 606, as amended.
- b. Executive Order 12472, Assignment of National Security and Emergency Preparedness Telecommunications Functions.

1-4 Reference.

Title 47 Code of Federal Regulations (CFR), Part 97, Subpart F, RACES.

1-5. Background.

- a. RACES is an organization of amateur radio operators who volunteer to provide radio communications to state and local governments in times of emergency. Created in 1952 primarily to serve in civil defense emergencies, RACES provided essential communications and warning links to supplement state and local government assets during emergencies.
- b. RACES is a special part of amateur radio administered by the Federal Emergency Management Agency (FEMA). RACES provides emergency communications for civil preparedness purposes only. RACES is conducted by amateurs using their own primary station licenses or club licenses.

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In the event that the President of the United States invokes the War Powers Act, amateurs officially enrolled in a RACES program group may be allowed to continue to operate, although the RACES members would be limited to operating only on certain frequencies and communicate with only other RACES stations. All other amateur radio operations in the United States would be silenced.

1-6. Definitions.

- a. RACES is a radio communications service, conducted by FCC licensed volunteer amateur radio operators, for providing emergency communications support to state and local governments.
- b. RACES Stations: an amateur radio station operated on behalf of an emergency management organization by a duly authorized RACES member, to provide emergency amateur radio communications in accordance with FCC rules and regulations governing the RACES program.
- c. Amateur radio communications is *noncommercial* radio communications by or among amateur radio stations solely with a personal aim and without pecuniary or business interest.
- d. Local government, as used herein, refers to Illinois county governments.

1-7. The Role of State and Local Governments.

- a. Local Governments. The role of local governments is to establish and train members of a RACES *organization* designed to provide or supplement essential emergency communications within their jurisdiction.
- b. State Government. The role of State Government is to establish and train a RACES organization designed to provide or supplement essential emergency *communications between* elements of State Government and between State and local governments, and between State and Federal government.

1-8 FEMA's Role.

FEMA's role is to provide planning guidance and technical assistance to be used for establishing RACES organization at the State and local government levels.

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1-9. Emergency Situations.

The RACES organization provides or supplements *communications during* emergencies where normally available communication systems have sustained damage. RACES operations may be used in a wide variety of situations, including but not limited to:

- a. Natural Disasters;
- b. Technological Disasters;
- c. Nuclear Accidents;
- d. Nuclear Attack;
- e. Terrorist Incidents; and
- f. Bomb Threats.

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CHAPTER 2

Eligibility and Procedures for RACES

2-1. General.

This chapter provides information on the requirements and procedures for establishing a RACES organization. Operator privileges in RACES are dependent upon the class of FCC-issued amateur radio license held by the individual RACES member.

2-2. RACES Eligibility.

Any United States citizen, who possesses a valid FCC amateur radio license is eligible to become a member of RACES. The services of amateurs who hold a Novice class license may be used, but this is not recommended due to the severe restriction of Novice class licensee operating privilege limitations.

2-3. Procedures for Establishing a RACES Organization.

The following procedures are recommended for establishing a RACES organization:

- a. The director of the local Emergency Operations Center (EOC) or director of emergency management (or designated representative) should first appoint, in writing, a reliable radio amateur to serve as the RACES Officer. This individual serves as a liaison between the RACES organization and the director's office and assists in the development of the RACES organization, recruits members, and keeps the Region RACES Officer informed of all RACES activities, progress, and needs.
- b. The local RACES Officer should hold a General, Advanced or Amateur Extra class amateur radio license; should be knowledgeable of FCC Rules and Regulations; and should be familiar with the functions of the Amateur Radio Relay League (ARRL) and the Amateur Radio Emergency Services (ARES) program. Individuals with strong organizational abilities, good verbal and written communications skills, and experience in emergency communications and emergency operations are ideal candidates.
- c. The local government RACES Officer should be empowered by the local government to recruit licensed amateur radio operators as RACES members.

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2-4. Recruitment and Retention.

a. Each prospective member should complete a RACES Operator Application and return it to the RACES Officer. The RACES Officer, in conjunction with the EMA staff, should design the RACES application to meet local requirements and standards. The application should not contain information that is protected under the Privacy Act. The RACES Officer, after reviewing applications, recommends acceptance or non-acceptance of the candidates to the emergency management director or his designated representative. Once candidate approval is granted, the director prepares a letter designating the applicant as a certified RACES member. A photograph identification card for each RACES member is highly recommended, however, the determination of the nature and type of identification provided by the local jurisdiction is entirely the purview of the local jurisdiction.

b. In order to serve effectively as a volunteer member of the emergency staff, access to otherwise restricted areas, such as the EOC or the jurisdiction's communications center, may be associated with RACES participation and RACES operator assignments. To the extent that similar requirements exist for other emergency staff members regarding access to restricted areas, a limited background check for RACES applicants is also recommended. This should be performed in accordance with the jurisdiction's applicable regulations and procedures. In all cases, whatever background checks are required by the local jurisdiction will apply.

c. RACES members are responsible for:

- (1) Participating in training sessions;
 - (2) Briefing the RACES Officer of any changes in equipment or amateur licensing status that may affect operation in the RACES program;
 - (3) Developing a strong background in emergency procedures, FCC Rules and Regulations, and network procedures;
 - (4) Being available when emergency communications are required by the appointing Director;
 - (5) Helping strengthen the organization by offering suggestions and positive feedback to correct deficiencies;
 - (6) Complying with volunteer standards established by the jurisdiction;
- and,
- (7) Notifying the RACES Officer, in writing, when terminating membership.

d. RACES membership participation should be reviewed by the local RACES Officer every 2 years. If participation is lacking, membership may be terminated; if deemed adequate, membership continues for another 2 years or such term as the EMA authorizes.

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2-5 Training.

- a. Training sessions should be scheduled to exercise the emergency communications plan and the proficiency of the RACES members. On the average, it is anticipated that roughly one hour per week should be devoted to RACES activities and training.
- b. RACES organizations may be utilized during drills and exercises in order to train members and exercise the emergency communications plan as long as the drills and exercises fall within the FCC's Rules regarding RACES drills and exercises. RACES exercises will help identify the need for updates or revisions to the RACES plan. Special RACES drills and exercises can serve as a mechanism for honing skills in emergency communications.
- c. All training must be recorded in the participant's and RACES unit's files.
- d. NMS/ICS training requirements are those that are imposed by the local jurisdiction. It is recommended that each RACES member complete, at a minimum, ICS 100, 200 and IS-700 courses.

2-6. Development of a RACES Plan.

- a. Once membership reaches a strength that is considered adequate by the RACES Officer, bylaws and an emergency communications plan that meet local requirements must be written.
- b. Development of a RACES plan is vital to the organization and its importance cannot be overemphasized. A plan must be prepared in accordance with the local area needs and the facilities available within that particular area. Written plans must clearly describe each area to be covered. Copies of all local government RACES plans are forwarded to the State RACES Officer for coordination and retention. Additionally, each RACES organization should keep a current copy of its roster of members on file with the State RACES Officer.
- c. The following items should be addressed within the plan:
 - (1) Identify the community or area where coverage is required;
 - (2) Identify the type of support needed, i.e. hospitals, mass care shelters, nursing homes, assisted living centers, etc., along with the communications requirements of each facility.
 - (3) Identify the network to be used to provide each type of support, the operating frequency, mode of operation, and location of the network control station for each network;
 - (4) Establish the RACES Unit's chain of command, identifying the EMA's communications officer (or other official) to whom the RACES unit reports;

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- (5) Identify frequencies - high frequency (HF), very high frequency (VHF) and ultra high frequency (UHF) -- to be used by mobile, portable, repeater, and fixed stations;
- (6) Provide the addresses of all known fixed station locations required to support each network;
- (7) Define the areas of operations of mobile stations required to support each network;
- (8) Describe, briefly, the *communications* equipment, antenna, and power source required for portable, mobile, and fixed operations;
- (9) Include a statement that declares, "FCC Rules and Regulations apply to the operation of a radio in the amateur service and therefore apply to the RACES organization and it's members when operating under RACES authority."
- d. A checklist unique to the local requirements may be developed and incorporated into the plan. Testing and drills may be scheduled but should not exceed a total time of 1/2 hour per week, per FCC rules.
- e. The appendix to this SOG provides a sample local plan template which may be used to help with the development of a local plan.

2-7. RACES Activation.

- a. The Director of an Emergency Management Office, or authorized representative, for a particular area, may activate RACES. RACES activation must in accordance with an approved emergency management *communications plan* in any emergency concerning the following:
 - (1) Safety of life;
 - (2) Preservation of property;
 - (3) Alleviation of human suffering and needs;
 - (4) Any disaster endangering the public;
 - (5) Acts of sabotage; or
 - (6) Testing and drills.
- b. RACES stations and operators are to supplement surviving communications facilities, not supplant existing communications systems.

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2-8. RACES Unit Records.

It is recommended that the Emergency Management organization provide appropriate space for the storage of and *maintain custody* of these records. The following records should be maintained by the RACES Unit:

- a. The jurisdiction's current SOG and RACES plan;
- b. Records of all RACES Unit activations, drills, and training;
- c. Individual RACES Unit member files, including application form, copy of license, and a record of participation in activations, drills, and training;
- d. Equipment manuals, with additional operating instructions, where appropriate. This includes equipment owned by RACES Unit members, but made available for common use (e.g., equipment including personal equipment on loan and installed in the EOC); and
- e. Additional records or other documentation, as required by the Emergency Management Office.

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CHAPTER 3

Operations - Wartime Situations and RACES Drills

3-1. General.

This chapter provides information on the use of frequencies in emergency situations when the President has invoked the War Emergency Powers, under the provisions of the Communications Act of 1934, Section 606, as amended.

3-2. List of Frequencies (Wartime Emergency Situations).

a. The frequency bands listed below are available to stations operating in RACES on a shared basis with the amateur service. In the event of an emergency that necessitates the invocation of the President's War Emergency Powers under the provision of Section 706 of the Communications Act of 1934, as amended, RACES stations, as defined by FCC Rules, and, amateur stations participating in RACES may transmit on the following frequencies:

Frequencies and Frequency Bands

KHz:	14331-14350
1800-1825	21047-21053
1975-2000	21228-21267
3500-3550	MHz:
3930-3980	28.55-28.75
3984-4000	29.237-29.273
7079-7125	29.45-29.65
7245-7255	50-35-50.75
10100-10150	52-54
14047-14053	144.50-145.71
14220-14230	146-148
	2390-2450

b. In addition, 1.25 cm (223.0-225.0), 70 cm (420.0-450.0), and 23 cm (1240-1300 MHz) are available.

c. Frequencies at 3.9935 MHz and 146.520 MHz are used in emergency areas to make initial contact with military units and for communications with military stations on matters requiring coordination

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3-3. Message Format and Transmission Mode.

- a. The RACES message format should follow published standards such as ARRL (Radiogram), United States Army Military Affiliated Radio System (MARS) and/or FEMA (ICS 213). The use of ICS 213 format is recommended, but, not mandated.
- b. Each message element should be defined to minimize confusion. In emergency communications, most messages are assigned an *immediate* transmission precedence. The RACES operator must know how to deal with messages bearing any of the three precedence levels:

IMMEDIATE precedence messages are processed ahead of all other messages and sent or delivered in the order of receipt.

PRIORITY precedence messages are processed in the order of receipt and processed after IMMEDIATE precedence messages and ahead of all ROUTINE precedence messages. PRIORITY precedence messages are sent or delivered in the order of receipt.

ROUTINE precedence messages are processed in the order of receipt and after the IMMEDIATE and PRIORITY precedence messages.

- c. The mode of transmission should be selected to suit the emergency situation and the available communication resources. The choices of transmission modes should remain flexible in the emergency plan. To eliminate confusion, list modes in order of preference. The following are several recommended operating modes:

(1) Voice Communications (radio-telephone) -In most situations, voice fulfills the communications requirement. Use voice communications when a printed copy of message traffic is not necessary, i.e., informal messages.

(2) Digital Modes HF: PacTOR (I, II, or III), WinMOR, Olivia. These error-correcting modes can be critical if it becomes necessary to transmit large volumes of data. The use of non-error correcting modes is strongly discouraged.

(3) Packet (Very High Frequency (VHF) - VHF Packet operations are synonymous with the transfer of information between amateur stations throughout the United States. Packet is an extremely accurate mode that could be used for most local emergency communications. *Information may* be passed between packet radio stations at high speed with complete accuracy. Packet is highly recommended when an accurate printed copy is required for an emergency operation and meets the need for formal message traffic while, coincidentally, providing a transcribed record of the event and the message traffic that was handled during the event.

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d. Many other modes are available that could be used for emergency communications; however, the modes listed in subparagraphs 3 - 3c (1), (2), and (3) should be considered before other modes. Mode and frequency selections must fall within the boundaries of FCC Rules and Regulations and the authorized modes for the frequencies listed in the plan. VHF or UHF frequency modulation voice communications can provide a reliable voice link between mobile units, pedestrians, and the EOC.

3-4. General Limitations.

a. RACES stations operating in any of the frequency bands listed in this SOG shall not cause harmful interference to other services that might share those frequencies.

b. ***All messages transmitted by an (activated) RACES station must be authorized by the emergency organization.***

c. All messages transmitted in connection with drills or tests are plainly identified as such by use of the words *drill* or *test* in the body of the messages.

3-5. Limitation on the Use of RACES Stations

a. With certain exceptions, specifically noted in FCC Rules Part 97.407, RACES stations may not communicate with non-RACES amateur radio stations. RACES stations may, however, engage in communications with other amateur radio stations enrolled in other civil defense organizations, certain Federal government stations authorized to communicate with RACES stations, or stations in a radio service administered by and authorized by the FCC to communicate with RACES stations. Only emergency communications may be transmitted as defined in FCC Rules, Part 97.407. No amateur radio station shall be operated in

RACES unless it is certified as registered with a disaster service organization.

b. No RACES station shall be used to transmit or receive messages for hire, nor for communications for compensation, direct or indirect, paid or promised.

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APPENDIX

**SAMPLE Community RACES Service Plan for the Support of Local Government
During Emergencies**

To convert this plan for use in your jurisdiction, fill in the underlined portions of the sample plan with the information you compile in completing the worksheets, and provide annexes applicable to your locale.

For statistical information purposes, it is requested that a copy of your community's RACES plan be sent to

**Illinois Emergency Management Agency
ATTN: RACES Office
2200 S. Dirksen Parkway
Springfield, IL 62001**

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APPROVALS

The attached plan has been reviewed and approved by the following authorities:

County/Local Emergency Management Coordinator (Date)

Local RACES Officer (Date)

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1. Introduction.

a. Scope.

This plan provides guidance for the Radio Amateur Civil Emergency Service (RACES) to support local government officials during certain emergency conditions.

b. Purpose.

This plan is intended to provide a coordinated SUGGESTED OPERATIONAL GUIDELINES for government officials and the RACES organization during times when there are extraordinary threats to the safety of life and/or property. Maximum benefits from a RACES organization can be obtained only through careful planning which identifies the organizations, agencies, and individuals concerned and assigns a definitive role to each. This plan enables agencies and organizations having emergency responsibilities to include the RACES organization in local emergency plans and programs.

c. Operations.

This plan becomes official for _____ when signed by the director of Emergency Services and authorized local RACES representatives. Under this plan, the EMA Director is empowered to request the use of available volunteer communications facilities and personnel. Acceptance of or participation in this plan shall not be deemed as a relinquishment of license control, and shall not be deemed to prohibit an amateur radio service licensee from exercising independent discretion and responsibility in any given situation under the terms of said license.

2. Authority.

Part 97 Subpart A, Federal Communications Commission Rules and Regulations.

3. Authentication.

The form of authentication that will be used between the activating official and the RACES organization is personal identification or knowledge of the individuals involved.

4. Identification.

The methods used to identify a RACES member and key personnel during a communications support operation are the following:

- a. Local Emergency Services Identification Card, and
- b. Personal Acquaintance.
- c. Implementation Procedures

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5. Implementation Procedures.

a. Procedures for Government Officials. Upon notification or determination of an emergency condition or situation posing an extraordinary threat to life and/or property, _____ will contact the RACES Officer.

The Director of Emergency Services will use the following format when contacting the RACES Liaison officer:

“This is, _____ Director of _____ . I request that the RACES organization be activated for _____ because of (description of emergency situation).”

In order to speed personnel activation during emergency conditions or provide other announcements, an authorized official may contact the _____ Operational Area emergency broadcast system station and request that a public service announcement be made to assist activation of the RACES organization.

Appropriate government officials will issue a termination notice.

b. Procedures for Amateur Radio Operators.

Upon request by authorized authorities, the designated RACES members(s) will report to the EOC and activate the required emergency nets using the frequencies below:

Shelter net:

Evacuation net:

Hospital net:

_____ net:

RACES members missing a designated assignment by the EOC network Control Station are encouraged to check in at any time.

In the event that assistance is offered by amateurs not living within the immediate area, those amateurs may contact the local EOC for referral to the ARES organization, on the previously listed simplex frequencies or locally used repeater frequencies. Note, however, that if these volunteers are not RACES members, and, if RACES has been activated, RACES members may not communicate with non-RACES stations.

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The EOC RACES station will establish and maintain communications with the IEMA Region ___ RACES station on a frequency of 3.905 MHz (primary), 7.230 MHz (secondary).

Messages and traffic to the State EOC/IEMA must be channeled through the Region ___ RACES station, unless the State RACES Officer or his Deputy, or the Region RACES Officer or his Deputy, authorizes direct contact with the State RACES Station.

At the cessation of the emergency, authorized officials initiate roll call from the EOC using any one or more of the previously listed simplex frequencies and local repeater frequencies. RACES members will *then acknowledge* and confirm receipt of termination message.

6. Tests.

Tests of the system include:

- a. One test per week of the RACES organization not to exceed 60 minutes per week in duration.
- b. Annual emergency exercises.

7. Annexes.

- a. *Annex A:* Lists Key personnel and their telephone numbers.
- b. *Annex B:* Lists authorized RACES Radio Frequencies
- c. *Annex C:* Lists RACES members and resources.
- d. *Annex D:* Functional block diagram of agencies that interface with the emergency organization.
- e. *Annex E:* Local Checklists.
- f. *Annex F:* Glossary of terms.