San Diego County Operational Area Radio Amateur Civil Emergency Service Plan

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RECORD OF CHANGES

Date Of Change or Annual Review	Description	Pages Updated	Reviewed by	Revision Completed by

EXECUTIVE SUMMARY

The San Diego County (County) Operational Area (OA) has robust communications infrastructure that serves day-to-day and emergency communications needs. Emergency planning requires that back-up systems need to be available in case the existing communications infrastructure becomes overloaded, degraded, or disrupted.

Radio Amateur Civil Emergency Service (RACES) operators are highly trained amateur radio operators organized to assist in public service and emergency communications.

The entire amateur radio service may be restricted by the Federal government during emergency situations; there exist exceptions for amateur radio communications by RACES stations. Therefore, a RACES plan is necessary to authorize the County OA to utilize RACES during emergencies.

This plan enhances the effectiveness and efficiencies of the County Operational Area preparedness, response, and recovery activities, by augmenting emergency communications that may become overloaded, degraded, or non-existent.

This plan will also provide coordination guidance for both governmental and non-governmental amateur/ham radio groups. These groups include, but are not limited to, Auxiliary Communication Service (ACS), American Radio Relay League (ARRL), Amateur Radio Emergency Service (ARES), as well as Community Emergency Response Teams (CERT). The purpose is to formalize their coordination with local first responders during the response and recovery phases caused by major disasters involving compromised communications.

In addition, this plan provides best practices for public safety organizations to coordinate communications between regional and local governments and first responders when alternative communications systems are in use and while traditional communications methodologies are being restored.

Finally, this plan supports Emergency Support Function #2 (Communications) of the National Response Framework.

1. INTRODUCTION

The County OA Radio Amateur Civil Emergency Service (RACES) Plan addresses the use of RACES communications during emergencies in the County OA. The OA RACES Plan also serves to map how units activated to perform RACES communications support the Department of Homeland Security's Emergency Support Function (ESF) #2 (Communications) of the National Response Framework (NRF) and fit within the Incident Command System (ICS).

> *ESF #2 Purpose- Supports the restoration of communications infrastructure, coordinates communications support to response efforts, facilitates the delivery of information to emergency management decision makers, and assists in the stabilization and reestablishment of systems and applications during incidents.* [1]

Under ESF #2, the OA RACES Plan supports the restoration of communications infrastructure, coordinates communications support to response efforts, facilitates the delivery of information to emergency management decision makers, and assists in the stabilization and reestablishment of systems and applications during incidents[2].

Amateur radio, also known as ham radio, uses radio frequency spectrum for purposes of non-commercial exchange of messages, wireless experimentation, self-training, private recreation, radiosport, contesting, and emergency communication. The term "amateur" is used to specify a duly licensed person interested in radioelectric practice with a purely personal aim and without monetary interest and to differentiate it from commercial broadcasting, public safety (such as police and fire), or professional two-way radio services (such as maritime, aviation, taxis, etc.). Radio amateurs use a variety of voice, text, image, and data communications modes and have access to frequency allocations throughout the radio spectrum. This enables communication across a city, region, country, continent, the world, or even into space. Amateur radio operators may also send, receive, or relay radio communications between computers or transceivers connected to virtual private networks.

The Federal Communications Commission (FCC) provides spectrum management and frequency allocation for the entities it regulates. FCC Rules and Regulations apply to the operation of a radio in all the AUXCOMM services, including Amateur radio[3].

RACES is a radio service provided for in Federal Communications Commission (FCC) rules and regulations[4] governing Amateur radio in the United States. The concept of a standby "Radio Amateur Civil Emergency Service" to replace the conventional "Amateur Radio Service" during wartime was developed in 1952 as result of input from the American Radio Relay League (ARRL) and the Department of the Army's Office of Civil Defense.

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[1] FEMA (June 2016) Emergency Support Function #2-Communications Annex
[2] FEMA (June 2016) Emergency Support Function #2-Communications Annex
[3] 97 C.F.R.
[4] 97 C.F.R. §407

The Code of Federal Regulations (CFR) regulates how RACES may be used and how amateur radio may be restricted in certain emergency situations[5]. When so activated, RACES will consist of only those amateur radio operators who have previously registered/enrolled with State and local governments to provide emergency radio communications for them in times of emergency[6].

As used in this plan, RACES refers to the entire amateur radio component of the AUXCOMM community, throughout the County OA, that have registered/enrolled as recognized groups and individuals with the government to provide emergency radio communications in times of emergency.

Other amateur radio operations might be suspended[7] and operations under the FCC RACES rules might be restricted to certain frequencies within the amateur radio bands[8]. In addition to wartime communications, operations under the RACES rules can provide or supplement communications during emergencies where normal communication systems have sustained damage. It may be used in a wide variety of situations, including natural disasters, technological disasters, nuclear accidents, nuclear attack, terrorist incidents, and bomb threats.

In the past, actual FCC RACES station licenses were also issued to civil defense organizations. To prevent abuse of station licenses by officials who were not licensed amateur radio operators, limitations on the duration of non-emergency operation[9] and stations that might be contacted were incorporated[10]. Such RACES station licenses are no longer issued and any operations under the RACES rules would now use licensed amateur radio operators.

For the sake of this plan, terminology referring to "registered/enrolled stations" will mean the registration and enrolling of jurisdictions or agencies with amateur radio clubs recognized to perform the RACES function.

In daily practice, most amateur radio operators enrolled with their local government for possible operations under the RACES rules are also members of the ARES, organized by the American Radio Relay League (ARRL). ARES provides emergency communications in the conventional Amateur Radio Service without the need for an emergency declaration from the government. RACES primary communication responsibilities include Public Safety communication, whereas ARES primary communication responsibilities include the health and welfare system. For more information about Amatuer Radio support for health and welfare, refer to Annex E (Public Health Operations) and Annex I (Communications) of the San Diego County Emergency Operations Plan.

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[5] 97 C.F.R. §407
[6] 97 C.F.R. §407(a)
[7] 97 C.F.R. §407(a)
[8] 97 C.F.R. §407(b)
[9] 97 C.F.R. §407(d)(4)
[10] 97 C.F.R. §407(c)

2. PURPOSE

The County OA RACES Plan provides guidance to both governmental and non-governmental amateur/ham radio groups on how to coordinate and respond to emergencies within the County of San Diego's OA. The plan aims to provide guidance to groups who include, but are not limited to RACES, Auxiliary Communication Services (ACS), ARRL, ARES, as well as Community Emergency Response Teams (CERT). The purpose is to formalize their coordination with local first responders during the response and recovery phases caused by major disasters involving compromised communications. This plan supports and informs Annex I of the OA Emergency Operations Plan adopted by the UDC.

This plan provides best practices for public safety organizations to coordinate communications between regional and local governments and first responders when alternative communications systems are in use and while traditional communications methodologies are being restored.

3. GOAL

The goal of this plan is to enhance the interoperability of the County OA preparedness, response, and recovery activities, when emergency communications are overloaded, degraded, or non-existent.

4. SCOPE

The County OA RACES Plan affects every agency with a communication need during an emergency in the County OA, where that communication need cannot be met due to a normal communication method being overloaded, degraded or disrupted. Simply stated, this plan provides for back-up voice and data communications during an emergency.

This plan applies to Non-Governmental Organizations (NGOs) and Voluntary Organizations Active in Disasters (VOADs) that support emergency operations in the County OA.

This plan applies to licensed civilian amateur radio stations/operators that are registered/ enrolled with the County Office of Emergency Services (OES).

This plan shall be activated any time the President of the United States implements the National Emergency Act[11].

This plan may be activated:

- During a full activation of the County OA Emergency Operations Center (EOC)
- Upon direction of the County CAO
- Upon direction of the Director of the County OES, or his/her designee, or designee of the County Sheriff's Department.
- At any other time at the discretion of the CAO, the Director of the County OES, or his/her designee when a significant impact to the communications infrastructure is expected or has occurred.

[11] 50 U.S.C. § 1601

5. REGULATIONS AND POLICY

The main FCC regulations and guidance which address the RACES function are found in section 407 of Part 97 of the Code of Federal Regulations (CFR). Per the FCC requirements, RACES stations/operators must be registered/enrolled with the civil defense organization[12], and may only transmit on authorized frequencies[13]. RACES stations and operators may only transmit with or to other RACES stations[14]. Only four types of transmissions are allowed[15]:

1. Messages concerning impending/actual conditions jeopardizing public safety, national defense/security, during emergencies;
2. Messages concerning the immediate safety of life of individuals; immediate protection or property; maintenance of law and order; alleviation of human suffering and need; and combating of armed attack or sabotage;
3. Messages concerning the accumulation/dissemination of public information/instructions to the civilian population essential to the activities of the civil defense organization or other authorized governmental/relief agencies;
4. Training drills and tests.

Prior to the FCC section 407 guidance, Section 706 of the Communications Act of 1934, as amended[16], established Presidential powers during wartime emergencies for priority use of the national communications infrastructure. In 1984, the Federal Executive Order 12472 assigned authority to the Director, Office of Science and Technology Policy (OSTP), to direct the exercise of the war power functions of the President[17], should the President issue implementing instructions in accordance with the National Emergencies Act[18]. Federal Executive Order 12472 also assigned specific non-wartime emergency communications authorities to the Director, OSTP.

An OSTP memorandum to the Manager, National Communications System (NCS), (dated June 11, 1993, Subject: NS/EP Telecommunications) states that the Office of the Manager, NCS, executes Federal Response Plan primary agency functional responsibilities on behalf of OSTP. This delegation of authority is retained in the existing DHS National Response Framework. As such, the OSTP delegates ESF #2 coordinator functional responsibilities to the Office of the Manager, NCS.

[12] 97 C.F.R. §407(a)
[13] 97 C.F.R. §407(b)
[14] 97 C.F.R. §407(c)
[15] 97 C.F.R. §§407(d) (1-4)
[16] 47 U.S.C. §606
[17] Communications Act of 1934, as amended (47 U.S.C. §606), §§706(a), (c)–(e)
[18] 50 U.S.C. §1601

The Homeland Security Act of 2002, as amended by the Post-Katrina Emergency Management Reform Act of 2006, establishes an Office of Emergency Communications within the Department of Homeland Security (DHS). In cooperation with the NCS, this office is responsible for coordinating the establishment of a national response capability with initial and ongoing planning, implementation, and training for the deployment of communications equipment for relevant State, tribal, and local governments and emergency response providers in the event of a catastrophic loss of local and regional emergency communications services.

This RACES OA Plan aligns with DHS's Office of Emergency Communication National Emergency Communications Plan (NECP) and its goals in maintaining local ham radio capabilities and their mission to support emergency communications by facilitating requests for assistance and reporting, as well as being used by volunteer groups to provide backup communications to public safety officials and emergency managers.

This OA RACES Plan also supports the State RACES Program under the California Governor's Office of Emergency Services (Cal OES). The following section expands on the local roles and responsibilities within the ICS structure wherein the County OA RACES units are expected to coordinate.

5. COMMUNICATIONS STRUCTURE / STANDARD EMERGENCY MANAGEMENT SYSTEM

Under the Incident Command System (ICS) and Standard Emergency Management System (SEMS), jurisdictional EOCs authorized to perform the RACES function falls under the Communications Unit of the Services Branch of the Logistics Section inside The County of San Diego's Operational Area Organizational Structure which follows ICS/SEMS structure (Figure 2).

FIGURE 2: LOCATION OF COMMUNICATIONS UNIT (CIRCLED IN RED) IN THE COUNTY OF SAN DIEGO OPERATIONAL AREA EMERGENCY OPERATIONS CENTER LEVEL ONE ORGANIZATIONAL CHART

The EOC Communications Unit Leader (COML), whether at the County or Jurisdiction, position plans and manages the operational and technical aspects of the communications function during an event. The EOC's COML's responsibilities include: develop plans for the effective use of communications equipment and facilities; install and test communications equipment; supervise the EOC Communications Center (CC); distribute communications equipment to personnel; and maintain and repair communications equipment.[19]

The EOC Communications Center Manager (CM) position is filled when the COML's span of control would be exceeded either by the complexity of the incident, requiring an unusual degree of involvement in EOC emergency action planning, or by the number of technicians and radio operators assigned to the event. The CM serves primarily to supervise radio operators and manage the increased complexity of a CC during large incidents.[20]

Each activated jurisdiction RACES unit shall designate an Auxiliary Communications Manager (ACM), who shall serve as the single point of contact in the chain of command for all jurisdictional RACES operators. The unit's ACM will normally report to the jurisdictional EOC Communications Manager (CM), or their Communications Unit Leader (COML) if the CM position is not staffed. It is at the jurisdictional COML position where they coordinate with the County's COML on a regional event (See Figure 6).

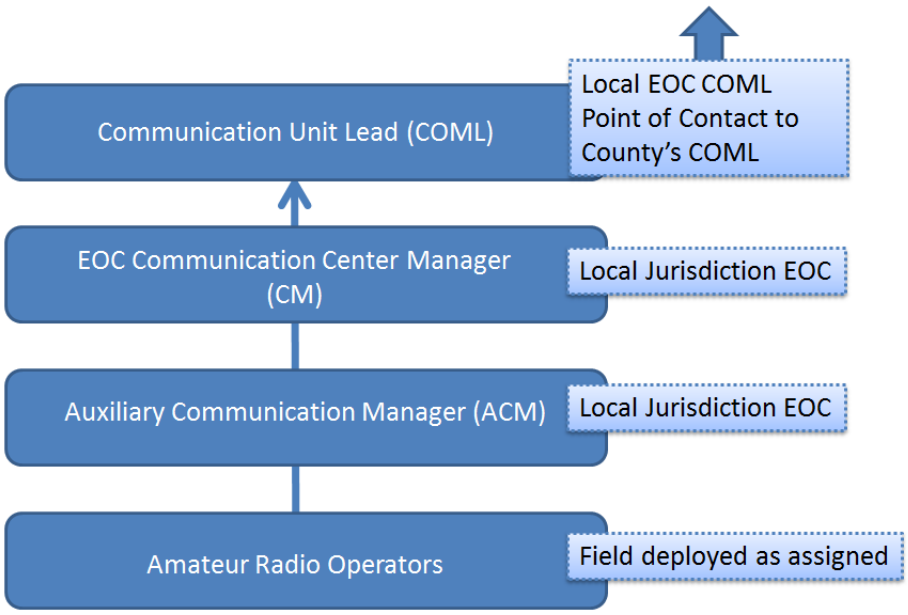

FIGURE6: COUNTY OF SAN DIEGO RACES SUGGESTED CHAIN OF COMMAND

[19] U.S. Department of Homeland Security (2012) Incident Command System Communications Unit Implementation and Best Practices

[20] U.S. Department of Homeland Security (2012) Incident Command System Communications Unit Implementation and Best Practices

The ACM manages the operational and technical aspects for the RACES operators and stations and supervises the jurisdiction's RACES operators.

It is required that persons assigned as an ACM:

- Hold a valid FCC amateur radio license
- Have a good working knowledge of ICS, including completion of the most recent versions of these courses:
    - ICS100
    - ICS200
    - ICS700
    - ICS800

It is highly recommended that persons assigned as an ACM also:

- Have completed the Department of Homeland Security (DHS) Office of Emergency Communications (OEC) Auxiliary Communications (AUXCOMM) course
- Have supervisory experience, including excellent inter-personal skills

6. RESPONSIBILITY

County OES will register and enroll amateur radio stations whereas they serve as recognized units operating under local jurisdictions or volunteer organizations regularly relied upon during emergency events.

This list will be maintained in Attachment A and will be updated annually or as necessary by County OES. In addition to these responsibilities, the County's OES, Sheriff Wireless Services Division (WSD), and the Sheriff's Auxiliary Communication Services (ACS) share responsibilities for training and maintaining the OA systems.

It is the responsibility of the County OES to:

- Every 4 years review and update this plan and its attachments
- Register/enroll RACES stations
- Update the attachment containing the list of RACES registered/enrolled Stations
- Update the attachment listing the criteria to be considered for selecting which stations will be registered/enrolled
- Activate this plan when the President of the United States implements the National Emergency Act[21]
- Determine when to activate this plan when otherwise necessary
- Determine when to deactivate this plan
- Notify each jurisdiction when this plan has been activated or deactivated

It is the responsibility of the County Sheriff's WSD to:

- Maintain the County-owned amateur radio equipment in the EOC
- Maintain the County-owned amateur radio equipment at the remote mountain-top repeater sites
- Maintain the County-owned amateur radio equipment in the County-owned ACS mobile assets
- Maintain the County-owned amateur radio equipment in other locations throughout the OA

[21] 50 U.S.C. § 1601

It is the responsibility of the County Sheriff's Department ACS to:

- Update the attachment describing the communications plan as necessary
- Disseminate updates to the communications plan to the RACES Registered/enrolled Stations
- Make activation / deactivation announcements on the designated RACES command net
- Serve as the Net Control Station for the RACES command net while this plan is activated
- Monitor the county-maintained RACES radio infrastructure and work with WSD to resolve technical issues
- Establish RACES communications with State as necessary
- Coordinate requests for RACES mutual aid within the OA
- At least once a month, serve as Net Control Station for a check-in radio net to test all registered/enrolled stations

It is the responsibility of each jurisdictional RACES unit to:

- Maintain a roster of their registered/enrolled amateur radio operators and provide them with identification
- Provide Disaster Service Worker (DSW) or equivalent coverage to their registered/enrolled amateur radio operators
- Appoint an Auxiliary Communications Manager (ACM) to supervise that jurisdiction's RACES operators
- Control their own assets provided in support of incident response and coordinate location and use with the Communications Branch under the ICS structure.
- Provide Disaster Service Worker (DSW) or equivalent coverage to any registered/enrolled amateur radio operator that it receives in response to a mutual aid request
- Maintain MOA/MOUs with private clubs/individuals who supply amateur radio infrastructure in support of their unit

Participation in RACES does not confer any of the benefits of the Disaster Service Worker (DSW) program.

7. COMMUNICATIONS POLICIES

7.1. Registered/Enrolled Stations

Federal regulations defining RACES were originally written in 1952. The terminology "civil defense organization" was used to set forth who would register RACES stations/operators[22]. Since 1952, government agencies involved in emergency activities have evolved from "civil defense organizations" through several iterations to today's "all hazards" professional emergency management organizations. During these iterations, the terminology "civil defense organization" has disappeared from most professional emergency management organizations vocabulary. Under this plan, County of San Diego (CoSD) Office of Emergency Services (OES) will register and enroll amateur radio stations whereas they serve as recognized units operating under local jurisdictions or volunteer organizations regularly relied upon during emergency events.[23]

No station may transmit in RACES unless it is an FCC-licensed primary, club, or military recreation station and it is certified by a civil defense organization as registered/enrolled with that organization[24]. The list of RACES registered/enrolled stations shall be maintained as Attachment A to this plan and shall be updated as necessary by OES. OES will use the guidelines in Attachment B and C in considering which amateur radio stations will be registered/enrolled. OES has the sole discretion on which stations to register/enroll.

Any amateur radio operator who is activated under this plan must be affiliated with a registered/enrolled RACES unit. "Single Resource" or "Lone Wolf" RACES operators are prohibited.

Although registered/enrolled through OES, each jurisdiction remains responsible to control their own assets and to provide the necessary training to carry out the RACES function. Each jurisdiction retains liability for the actions of their assets under this plan.

[22] 97 C.F.R. §407(a)

[23] In the past, actual FCC RACES station licenses were issued to "civil defense organizations." In 2000, the FCC stopped issuing RACES station licenses. Many "civil defense organizations" migrated from their RACES station license to a "club" station license. Any operations under the RACES rules may operate under either a "club" station license, or individually licensed amateur radio operators. However, the "station" terminology remains in the federal regulations. For the purposes of this plan, the phrase "station/operator" shall refer to any amateur radio operator who is fulfilling the RACES function, whether that operator identifies under a "club station" or "individual" FCC license.

[24] 97 C.F.R. §407(a)

7.2. Roster of Volunteers

An activated RACES community within the County of San Diego could be in the hundreds and therefore, it is not practical for the County OES to vet and maintain a roster of each jurisdictional unit RACES amateur radio operator. The responsibilities of vetting and roster management are delegated to the recognized jurisdictions and agencies. County OES will not register each jurisdictional unit RACES amateur radio operator as a Disaster Service Worker (DSW). The liability coverage is the responsibility of the sponsoring jurisdiction and agency. Refer to Attachment B and C for registering/enrolling requirements.

Each jurisdictional RACES unit shall maintain a roster of their amateur radio operators and shall provide their amateur radio operators with identification. Each jurisdictional RACES unit should provide Disaster Service Worker or equivalent coverage to their registered/enrolled Amateur radio operators.

7.3. Mutual Aid

Mutual Aid for RACES units will follow the State of California Master Mutual Aid Agreement. Local jurisdictions will request aid from the OA by contacting the OA Communications Coordinator (COMC), or Communication Unit Leader (COML). Should the OA need to request aid from the Mutual Aid region or the State, a request will be made through the State RACES program.

FIGURE 4: MUTUAL AID HIERARCHY UNDER MASTER MUTUAL AID AGREEMENT

Each RACES unit may make their resources available for mutual aid. There is no obligation or requirement that any RACES unit provide mutual aid. Agencies that provide communications assets in support of incident response control their own assets and coordinate location and use with the Communications Branch under the ICS structure.

Any RACES unit providing mutual aid shall provide their responding amateur radio operators with identification.

Any RACES unit accepting outside mutual aid shall have the responsibility for providing Disaster Service Worker (DSW) or equivalent coverage to those outside amateur radio operators who are coming to assist.

There currently is no recognized standard for the "typing" (categorizing capabilities) of AUXCOMM/RACES resources to standardize mutual aid requests. Therefore, any requests for mutual aid should be as specific as possible. Factors that may be included in an initial request for mutual aid include:

- The number of teams required
- The number of personnel for each team
- The type of radio equipment needed
- The duration of deployment
- The general nature of the work to be done (operate radios, climb towers, etc.)
- The environment (field work, EOC, shelter, etc.)
- The type of transportation needed (if any)

For example:
"I need five two-person teams in four-wheel drive vehicles with 2 meter and 440 mobile radios capable of being self-sustained for a 12-hour nighttime field deployment."

Reimbursements for mutual aid for AUXCOMM resources should be outlined in pre-established memorandums of agreement between requesting and supplying agencies.

7.4. Emergency Access by Non-registered Stations

Although non-registered/enrolled amateur radio operators may be restricted from transmitting during imposition of the RACES regulations[25], the OA recognizes that emergency radio access may still occur by non-registered/non-enrolled amateur radio stations, who may have no other option to make emergency contact.

The Wilderness Protocol has been adopted by ARES and is outlined in their Emergency Resources Manual[26]. The County's communication protocol, which is similar to the Wilderness Protocol, is intended to be a "force multiplier" in that all available amateur radio operators monitor designated frequencies at designated times, and if they hear an emergency from a weaker station, to relay that message. Under this plan, the County's communication protocol has been expanded to include more frequent monitoring (every half hour). During a disaster, having many amateur radio operators listening for emergencies from other non-registered/enrolled amateur radio operators enhances emergency access for non-registered/enrolled amateur radio operators. For a list of recommended stations for registered/enrolled stations to monitor, refer to Attachment D.

[25] 97 C.F.R. §407(a)

All registered/enrolled RACES amateur radio stations are encouraged to monitor the following nationally recognized calling channels during activation of this plan:

- 52.525 MHz
- 146.520 MHz
- 223.500 MHz
- 446.000 MHz
- 1294.500 MHz

The calling channels should be monitored for the five-minute period that begins at the beginning of each hour, as well as the five-minute period that begins half way through each hour. For example, the calling channels should be monitored from 0000-0005 hours, 0030-0035 hours, 0100-0105 hours, 0130-0135 hours, etc.

Upon receiving actionable emergency information from a non-registered/non-enrolled amateur radio station, the RACES unit shall relay that information on their assigned tactical/command networks, utilizing their chain of command.

7.5. Authentication of Messages

Every message which purports to be of an official nature shall include the name and position of the person authorizing the message.

For example:
"Captain Smith of the Fallbrook Sheriff has stated the next briefing will be at 1300 hours."

7.6. Data

The majority of amateur radio operators rely on voice transmission of information to support normal and emergency operations. Well trained amateur radio operators have proven to be a reliable means of maintaining communications with minimal equipment in all types of environments. However, it would be remiss not to recognize that evolutions in technology have increased the options by which information can be sent through the traditional ham radio systems.

While there are many digital modes available for amateur radio to transmit voice and data, analog modes shall be the default transmission mode until otherwise set forth in the Incident Radio Communications Plan (ICS Form 205).

Activated RACES units may be called upon to transmit sensitive information from the field to the County EOC during times of emergency and recovery. Units may also be utilized to disseminate information from the County EOC to the public such as serving as alternatives to the Emergency Alert System by providing warnings to:

- The public
- County and city communications centers
- Special facilities
    - Schools
    - Hospitals
    - Fire Stations
    - Utility Stations

Such messages may be long, and accuracy is critical and digital data may be the best method to accurately receive the information that needs to be disseminated. Such information may be voluminous, and accuracy and speed may be critical. For these reasons, it may be advantageous for RACES units to employ data rather than voice to provide this information to the County EOC.

7.7. Partnership Agreements

The County Sheriff's WSD provides technical support for radio-related issues in the OA EOC. WSD supports the RACES function of the County Sheriff's Auxiliary Communications Service by maintaining the County-owned amateur radio equipment in the EOC, at the remote mountain-top repeater sites, within the county-owned mobile assets and locations throughout the OA.

In the event additional privately-owned radio infrastructure (repeaters, etc.) are identified to support or back-up the RACES function, the County OES may enter into partnership agreements with those private entities if appropriate. These agreements should address any costs to be incurred by the County, as well as which party will assume any liabilities and any "hold harmless" clauses.

Other RACES units who utilize private radio repeaters and/or linked systems for either primary or back-up communications paths should enter into partnership agreements with those private parties (individuals or clubs). These agreements should address costs, as well as which party will assume any liabilities and any "hold harmless" clauses. Such agreements should be copied to the County OES.

7.8. Communications Plan

An Incident Radio Communications Plan (ICS Form 205) provides information on all radio frequency or trunked radio system talkgroup assignments for each operational period. The plan is a summary of information obtained about available radio frequencies or talkgroups and the assignments of those resources by the Communications Unit Leader for use by incident responders. The Radio Communications Plan is prepared by the Communications Unit Leader and given to the Planning Section Chief for inclusion in the Incident Action Plan.

While Radio Communications Plans are normally constructed during the planning cycle for each operational period during emergency operations, Radio Communication Plans can also be "pre-built" for various scenarios by emergency planners, including the RACES unit.

The amateur radio community is unique in that it is one of the few radio services that can make its own choices from a wide range of available radio frequencies.

The actual range of radio frequencies available to the amateur radio community may change if there is a Federal activation of RACES[27]. The actual frequencies available will be determined by Director, OSTP[28]. The available frequencies may not include frequencies in a "pre-built" Radio Communications Plan.

Some amateur radio repeaters and infrastructure are maintained by individuals and volunteer organizations, while others are professionally maintained by government agencies. Some repeaters and infrastructure are capable of self-sustained operation for long periods of time in emergencies, while others are not. Individual and volunteer-maintained infrastructure may cease to be available over the duration of an emergency, due to lack of access, lack of support, lack of backup power systems, inability to refuel backup generators, etc. This uncertainty may make pre-planned repeater assignments unavailable during emergencies.

A static RACES communications plan may quickly become obsolete and would not best serve the community. Pre-designated frequencies in a static RACES communications plan may not be available during activation of this plan. A static RACES communications plan would also limit the dynamic nature that is one of the strengths of amateur radio.

Attachment D lists the recognized calling channels, as referenced in Section 6.4 above. Attachment D also lists basic command net frequencies maintained by the County Sheriff's Department ACS, recognizing that those may change.

[27] 97 C.F.R. §407(b)
[28] 47 C.F.R. §§214.0 – 214.6

8. ACTIVATION AND DISCONTINUATION

The County OA RACES Plan shall be activated any time the President of the United States implements the National Emergency Act[29]. The plan may also be activated:

- During a activation of the County OA EOC
- Upon direction of the County CAO
- Upon direction of the Director of the County OES, or his/her designee, or designee of the County Sheriff's Department.
- At any other time at the discretion of the Director of the County OES, or his/her designee when a significant impact to the communications infrastructure is expected or has occurred.

This plan may not be activated by a jurisdictional RACES unit. A jurisdictional RACES unit may request activation of this plan by contacting the County OES or the County Sheriff's Department ACS coordinator. The County OES shall notify the Emergency Managers in each jurisdiction when this plan has been activated. The County Sheriff's Department ACS shall make an announcement over a pre-designated amateur radio command net frequency when this plan has been activated. Once this plan is activated, each jurisdictional RACES unit shall report back to the County Sheriff's Department ACS unit and identify who is their ACM or COML point of contact.

A radio net is three or more radio stations communicating with each other on a common frequency. A Net Control Station is the moderator for a radio net. A directed net is a radio net in which all stations speak only to the Net Control Station, who directs the flow of messages.

Once this plan is activated, the County Sheriff's Department ACS unit shall serve as the Net Control Station for a directed net on the pre-designated command net frequency. If the pre-designated command net frequency is not available due to federally imposed frequency restrictions[30], the County Sheriff's Department ACS unit will coordinate with the OA COMC in designating an alternate command net frequency. While this plan is activated, the County Sheriff's Department ACS unit has the responsibility to monitor the RACES nets for technical problems. The County Sheriff's Department ACS unit will work with the WSD to resolve any technical problems.

This plan may be deactivated upon direction of the Upon direction of the County CAO, the Director of the County OES, or his/her designee, or designee of the County Sheriff's Department. The County OES shall notify the Emergency Managers in each jurisdiction when this plan has been deactivated. The County Sheriff's Department ACS shall make an announcement over a pre-designated amateur radio command net frequency when this plan has been deactivated.

[29] 50 U.S.C. § 1601
[30] 97 C.F.R. §407(b)

9. ALTERNATIVES

Alternatives to providing emergency communications outside this plan include, but are not limited to:

- Telephone conference bridges: a device or application that is used to connect large numbers of people participating in a conference call
- Internet / E-mail: The Internet is the global system of interconnected computer networks that link devices worldwide; E-mail is short for "electronic mail;" both may be used together to communicate from one device to another
- Satellite phones: a type of mobile phone that connects to orbiting satellites instead of terrestrial cell sites, providing similar functionality to terrestrial mobile telephones
- Cache of portable radios on non-amateur radio frequencies: this includes radios programmed with frequencies used by the other AUXCOMM services
- Existing conventional channels: all radios on the Regional Communications System (RCS) are programmed with conventional (non-trunked/non-computer controlled) frequencies, that can transmit through existing repeaters, or directly from radio to radio
- Computer Aided Dispatch (CAD) inter-connections: messages can be sent from one communications center CAD system to another if those systems are inter-connected
- Runner systems: the use of humans to physically carry a message from one point to another

10. TRAINING AND TESTING REQUIREMENTS

Exercises play a vital role in preparedness by enabling stakeholders to test and validate plans and capabilities and identify both capability gaps and areas for improvement. A well-designed exercise provides a low-risk environment to test capabilities, familiarize personnel with roles and responsibilities, and foster meaningful interaction and communication across organizations. Exercises bring together and strengthen the whole community in its efforts to prevent, protect against, mitigate, respond to, and recover from all hazards[31].

The County of San Diego recognizes and encourages the numerous contributions each AUXCOMM component makes on a regular basis to support day-to-day events throughout the OA. Nothing in this plan intends to discourage the continued contributions and cooperation of the AUXCOMM community or amateur radio. RACES operators can train and practice on the concepts of this plan through planned events and localized emergency incidents. RACES units are encouraged to participate and interact with all other members of the AUXCOMM community in common events, such as parades, community fairs, etc. Such interaction should not only build upon the principles in this plan but serve as a platform to share ideas and training and allow members of different groups to become familiar with one another prior to any emergency activation.

The purpose of a RACES radio net is to confirm the operation of the amateur radio equipment used to support the RACES function. A radio net is three or more radio stations communicating with each other on a common frequency. A Net Control Station is the moderator for a radio net. A directed net is a radio net in which all stations speak only to the Net Control Station, who directs the flow of messages.

The County Sheriff's Department ACS is responsible for conducting a directed radio net ("check-ins") at least once per month. The participants should include each agency that is a registered/enrolled RACES station.

Tests such as the directed radio net may not exceed a total time of one hour per week, per the Federal RACES regulations[32].

The purpose of exercises is to provide training, confirm operational readiness of the RACES units, and validate this plan. These exercises should include verification of both the RACES voice and data capabilities.

[31] U.S. Department of Homeland Security (2013) Homeland Security Exercise and Evaluation Program
[32] 97 C.F.R. §407(d)(4)

Operations-based exercises include drills, functional exercises, and full-scale exercises. These exercises can be used to validate plans, policies, agreements, and procedures; clarify roles and responsibilities; and identify resource gaps. Operations-based exercises are characterized by actual reaction to an exercise scenario, such as initiating communications or mobilizing personnel and resources.[33]

Per the Federal RACES regulations, such exercises and drills may be conducted for a period not to exceed 72 hours no more than twice in any calendar year[34].

[33] U.S. Department of Homeland Security (2013) Homeland Security Exercise and Evaluation Program
[34] 97 C.F.R. §407(d)(4)

11. SUMMARY

The OA RACES Plan is written as a regional guiding document to facilitate operations between the OA emergency responder community and the amateur ham radio operators within the County of San Diego. It is also meant to provide units that transmit in RACES an understanding on how their role in providing back-up communications in emergencies fit within the regional command structure and how they support the Department of Homeland Security's Communication Emergency Support Function.

Multiple platforms, technologies, and procedures may be utilized to achieve the interoperability goals intended by this plan. The details by which these procedures and platforms may be used are in the form of separate supporting documentation developed at the local or regional level depending on the needs of the jurisdiction.

There are seemingly countless radio services within amateur radio. These radio services may be restricted by the federal government during emergency situations. Therefore, a RACES plan is necessary to formally organize the AUXCOMM community within San Diego County Operational Area in order to coordinate and utilize RACES efficiently during emergencies.

This plan provides the necessary governance for registered/enrolled RACES units to operate during emergency situations. Through continued practice and drilling of this plan, it's goal to enhances the interoperability of the San Diego County OA AUXCOMM communities' and their role in preparedness, response, and recovery activities when emergency communications become overloaded, degraded, or non-existent will be realized.

ATTACHMENT A - List of RACES Registered/enrolled Stations

TBD

ATTACHMENT B – Criteria to be Considered for Registering / Enrolling Stations

For registering / enrolling units who would like to perform the RACES function, there are two divisions of enrollees, governmental and non-governmental.

Governmental enrollees consist of amateur radio units that are sponsored through their local jurisdiction operating under the Unified Disaster Council or a County of San Diego department. They should have registered Disaster Service Worker (DSW) status or be covered under their jurisdiction as an amateur radio operators with equivalent Liability / Workers Compensation coverage.

Non-governmental enrollees are recognized groups within the County OA who are covered for liability either through their own liability insurance, or through Memorandums of Agreement (MOAs) / Memorandums of Understanding (MOUs) which provide DSW liability coverage.

Any unit who wishes to have their amateur radio units perform the RACES function during emergencies must certify that their designated amateur radio operators have completed the following requirements:

- Completion of the latest versions of the IS 100 / 200 / 700 / 800 courses[35]
- Possess a valid amateur radio operators license

It is highly recommended that each amateur radio operator who might be designated as an Auxiliary Communications Manager (ACM) during activations complete the Department of Homeland Security (DHS) Office of Emergency Communications (OEC) AUXCOMM training in person.

[35] Each Amateur Radio operator must complete this training within one year of joining their unit

ATTACHMENT C: Registration Process

Policy: **Station Enrollment**

Reference: Disaster Service Worker Volunteer Program (DSWVP) Regulations 10-2016 Edition, California Code of Regulations (CCR), Title 19, §2570-2573.3, Interpretation of Regulations – A. Chant, State of California Governor's Office of Emergency Services (Cal OES) and San Diego County Operational Area Radio Amateur Civil Emergency Service Plan (2018)

Date Issued: 10/01/18 **Reviewed:** n/a (new policy)

The San Diego County Office of Emergency Services (County OES) adheres to: the regulations set forth in the Disaster Service Worker Volunteer Program (DSWVP [10-2016 Edition]), and the registering/enrolling guidelines established by the San Diego County Operational Area (OA) Radio Amateur Civilian Emergency Services (RACES) Plan.

In compliance with such regulations, guidelines and interpretations, County OES supports its amateur radio groups requesting enrollment to be recognized as a unit who can transmit in RACES during declared regional or national emergencies. RACES roles are defined in the County OES OA RACES Plan.

<u>Process for Amateur Radio Group/Units Requesting RACES Enrollment:</u>

1. Amateur Radio Unit (ARU) requesting RACES Enrollment will place a request in writing to their sponsoring agency or UDC affiliated jurisdiction to register with the County OES and Sheriff's Department Auxiliary Communication Services.
2. Coordinate with sponsoring agency to complete all required training and certifications.
3. Upon confirmation, or approval in writing from the sponsoring agency who agrees to assume responsibility of liability coverage, assurance of required training.
4. The ARU will take responsibility to maintain their training, personnel updates, and will notify Program Managers of the changes in volunteer status.

<u>Process for Authorizing Officials Registering:</u>

1. Confirm that all operators have ARU affiliation or are under a Memorandum of Agreement/Understanding with your agency have completed all required training, are licensed, and are covered under liability insurance.
    - Suggested: Obtain copies of the CERT member's training certificates and a copy of their Disaster Service Worker (DSW) ID card.
2. Once confirmed, fill out the attached registration form, sign the form, and send it into County OES.[36]
3. County OES will update Attachment A of the County OA RACES Plan to reflect current RACES Registered/Enrolled Stations.

[36] Request fillable PDF form by emailing: OESgen.ODP@sdcounty.ca.gov

County of San Diego RACES Registration

Date:	Jurisdiction:
Jurisdiction and agency requesting RACES Registration:	
Authorizing Official for the request:	
Authorizing Jurisdiction/Agency for the request:	
Email:	
Telephone Number:	

AMATEUR RADIO GROUP TO BE REGISTERED UNDER THE COUNTY TO TRANSMIT IN RACES

TRAINING AND LIABILITY REQUIRED BY EACH HAM RADIO OPERATOR OPERATING IN RACES

RESPONSBILITY OF REQUIRED TRAINING: Please check the following boxes to recognize the required training courses to be completed by each ham radio operator affiliated with your agency.

IS 100: Introduction to Incident Command

IS 200:ICS for Single Resources and Initial Action Incidents

IS 700: National Incident Management System

IS 800: National Response Framework, an Introduction

OTHER TRAINING OR BACKGROUND CHECKS AS REQUIRED BY AGENCY

Please specify:

LIABILITY COVERAGE: Please check the box below to recognize each ham radio operator within affiliated unit has liability coverage when activated to transmit in RACES.

LIABILITY COVERAGE

PLEASE LIST TYPE OF COVERAGE:_____

IF NOT AFFILIATED WITH COUNTY OR UDC JURISDCTION PLEASE PROVIDE JUSTIFICATION FOR REGISTRATION

By signing your agency assumes responsibility for maintaining the training and liability requirements of each ham radio operator associated with your agency activated to transmit in RACES

SIGNATURE OF AUTHORIZING OFFICIAL:	POSITION OF AUTHORIZING OFFICIAL

ATTACHMENT D - Communications Plan

All registered/enrolled RACES amateur radio stations are encouraged to monitor the following nationally recognized calling channels during activation of this plan. The listed channels are the recommended frequencies to monitor. Depending on OA requirements during activations these frequencies may change.

Calling Channels	San Diego Area Command Net
52.525 MHz	147.195 MHz CTCSS 114.8
146.520 MHz	
223.500 MHz	
446.000 MHz	
1294.500 MHz	

ATTACHMENT E - Acronyms

ACM	Auxiliary Communications Manager
ACS	Auxiliary Communication Service
APRS	Automatic Packet Reporting System
APRS-IS	Automatic Packet Reporting System Internet Service
ARES	Amateur Radio Emergency Service
ARRL	American Radio Relay League
AUXCOMM	Auxiliary Communications
CAD	Computer Aided Dispatch
CB	Citizens Band
CERT	Community Emergency Response Team
CFR	Code of Federal Regulations
COMC	Communications Coordinator
COML	Communications Unit Leader
DHS	Department of Homeland Security
DSW	Disaster Service Worker
EOC	Emergency Operations Center
ESF	Emergency Support Function
FCC	Federal Communications Commission
FRS	Family Radio Service
GMRS	General Mobile Radio Service
ICC	Incident Communications Center
ICS	Incident Command System
IGATE	Internet Gateway
INCM	Incident Communications Manager
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NCS	National Communications System
NECP	National Emergency Communications Plan
NGO	Non-Governmental Organization
NRF	National Response Framework
UDC	Unified Disaster Council
OEC	Office of Emergency Communications
OES	Office of Emergency Services
OSTP	Office of Science and Technology Policy
RACES	Radio Amateur Civil Emergency Service
RCS	Regional Communications System
VOAD	Voluntary Organization Active in Disasters
WSD	Wireless Services Division

ATTACHMENT F – OA RACES Plan Stakeholder Participating Reviewers

City of Del Mar
City of Escondido
City of National City
City of Oceanside
City of Poway
City of San Diego
County Animal Services / CART
County Fire Authority
County OES
County Public Health
Heartland Fire
Humane Society
NOAA / Skywarn
North County Fire
Red Cross
San Diego ARES
San Diego Sheriff ACS
San Marcos Fire
State OES
Valley Center Fire

ATTACHMENT F – Current Suggested Data Systems

- Winlink, also known as the Winlink 2000 Network, is a worldwide radio messaging system that uses amateur-band radio frequencies to provide radio interconnection services that include email with attachments, position reporting, weather bulletins, emergency relief communications, and message relay. The system is built and administered by volunteers and administered by the Amateur Radio Safety Foundation Inc. Winlink is commonly used by the amateur radio emergency communications community.

- The Automatic Packet Reporting System (APRS) is an amateur radio-based system for real-time digital communication of information of immediate value in the local area. Data can include object Global Positioning System (GPS) coordinates, weather station telemetry, text messages, announcements, queries, and other telemetry. APRS data can be displayed on a map, which can show stations, objects, tracks of moving objects, weather stations, search and rescue data, and direction-finding data. Data are typically ingested into the APRS Internet System (APRS-IS) via an Internet-connected receiver (IGate) and distributed globally for ubiquitous and immediate access. There may be some emergencies which RACES units may be called upon to assist in mapping and tracking people and assets and marking the locations of events utilizing APRS.