



County of Cumberland Radio Amateur Civil Emergency Service (RACES)

Communications Plan

01-15-02

Prepared by

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County of Cumberland RACES Radio Officer

1. Introduction

1.1 The purpose of this guide book is to cover basic policies and procedures for operations by RACES registered Amateur Radio operators while operating as RACES stations.

1.2 Operations while operating as a RACES station are somewhat different than normal operations as an Amateur Radio station. There are too many different scenarios for emergency situations to outline them all in this manual. It is intended to cover the basics only. In many cases, operating procedures must be changed to cover the particular emergency involved. No emergency plan can ever be 'cast in stone'. There are too many variables that may come into play and plans may have to be adapted to fit the situation.

2. Policies

2.1 All RACES operations will be in accordance with policies and procedures set down in 47 CFR Part 97, FEMA and MEMA policies and procedures, and the *Communications and Warning Annex* of the County of Cumberland Emergency Management Agency Emergency Plan.

3. Assumptions

3.1 Good communications and warning are valuable emergency assets because of the potential they have for saving lives, preventing injuries, and protecting property.

3.2 It is assumed that in an emergency, State, County and Local governments will have the capabilities for providing the public with warnings and emergency safety information. Members of the public are expected to be familiar with local warning signals and with sources of emergency information, but this is unlikely.

3.3 Amateur Radio, operating in the RACES mode can provide flexible, backup communications to the normal communications systems that, in an emergency situation, may become clogged or fail completely. Due to the Amateur Radio operator's unique ability to provide emergency communications in the public service, and the large number of frequencies available and the varied modes of operation, Amateur Radio would provide an excellent backup to normal emergency communications.

4. Concept of Operations

4.1 General

4.11 The two facets of emergency warning are notifying the RACES organization and individuals within the organization, and communications with the public.

4.12 An initial warning may originate from MEMA, County of Cumberland EMA, Portland Primary A Point (Portland Public Safety Communications), NAWAS, or the National Weather Service in Gray. When the County EOC is activated, the primary warning point is shifted from Portland to the County EOC.

4.13 Any warning message from FEMA National or Regional, for actual and test situations, will include the time given in ZULU (UTC) time. The Maine State Warning Point (in Augusta) should

convert this to Eastern Standard Time (or Eastern Daylight Time, as applicable) before disseminating the warning to the Primary Warning Points across the state.

4.14 The Warning Point does not simultaneously activate all warning devices, rather it provides warning to the municipalities through a fanout system (contained in the *Communications and Warning Annex*). Each municipality in the county should have a local warning system in place to notify local officials and emergency managers.

4.15 The Emergency Alerting System (EAS) for Cumberland and York Counties is WBLM (FM 102.9) in Portland. To activate the EAS, a request must be made by either Cumberland or York County EMAs. Other avenues of media communication are addressed in the *Emergency Public Information Annex* to the County of Cumberland EMA Emergency Plan.

4.16 The RACES communications concept and network are diagrammed and attached.

4.2 Phases of Management

4.21 Mitigation

A alert fanout system has been established (attached) and is tested quarterly. A RACES communications net is in place (147.09 MHz (+) (100.0)) which can link all municipalities. This net is tested monthly via the *Cumberland County Emergency Net/Cumberland County RACES Net*.

4.22 Preparedness (for County RACES involvement)

The RACES Radio Officer (or the designated assistant) must be contacted. The RACES Radio Officer will begin the RACES fanout alerting system. Non RACES registered Amateur Radio operators may be recruited and trained as necessary.

4.23 Response and Recovery

The RACES Radio Officer (or his/her designated assistant) and one other RACES operator should report to the County EOC (as outlined in the *Direction and Control Annex* of the County of Cumberland EMA Emergency Plan) which will remain activated until the situation has reached a point that can be handled locally.

5. Organization and Responsibilities

5.11 The County of Cumberland Emergency Manager, under the direction of the County Commissioners, has the overall authority for the EOC and its emergency communications center. This person will designate a Communications Officer, who will be responsible for the activities and maintenance of the facilities in the emergency communications center, and who will act as the County Warning Officer. The Emergency Manager will also designate a RACES Radio Officer who will be responsible to the Communications Officer for all RACES communications within the emergency communications center and Cumberland County.

5.12 RACES operators will be the responsibility of the RACES Radio Officer, under the direction of the Communications Officer. RACES operators should be responsive to the guidance of the Communications Officer, as well as procedures associated with the *Communications and Warning Annex* of the County of Cumberland Emergency Management Agency Emergency Plan.

5.13 The County Operations Officer may become involved in directing message traffic, if appropriate.

6. System/Equipment Testing

6.1 For the purpose of testing equipment and procedures, unannounced radio checks and exercises will be conducted periodically.

6.11 The term FANOUT will be relayed utilizing the alerting system. A typical Fanout message may read: "Attention all stations. This is a FANOUT TEST. Time _____ Date _____."

6.12 Immediately upon receipt of a FANOUT TEST, Weather Warning or Emergency Message, each RACES station will fanout the message to other designated RACES stations.

6.13 RACES stations copying the FANOUT message will report the date and time they received the message and report the date and time received to the County RACES Radio Officer within 24 hours.

6.14 Each RACES operator is responsible for maintaining his/her communications equipment. County EMA is responsible for maintaining all County owned amateur radio (RACES) equipment.



County of Cumberland Radio Amateur Civil Emergency Service (RACES)

Network Communications Concept

Introduction

The aim of any emergency communications plan is flexibility. In an emergency or disaster situation, the best communications plan may fall apart due to loss of communications links as a result of the emergency or disaster. The flexible communications concept ensures that needed communications will get through no matter what the situation. Another reason for flexibility is the varied agencies that the County of Cumberland RACES serves and their communications needs. One agency may have communications requirements that another may not. No communications plan can be 'cast in stone' as there are too many factors that can have a direct bearing on the communications plan and how it works.

General concepts

The primary communications network will work in a *hub/spoke* configuration. Use of the *hub/spoke* configuration assures continuity of the network even if a spoke (or the hub) fails. The hub of the network is the *Cumberland County RACES Net (CCRN)* with all other operating networks and links in Cumberland County flowing in and out of it as spokes. Using the *hub/spoke* configuration, spokes may be added or deleted as dictated by the emergency or disaster situation. Using this concept, independent nets may operate without the necessity of all traffic flowing through the hub (*CCRN*). All *feeder nets (or spokes)* will maintain a liaison station with the *CCRN*. The liaison stations should have the capability of monitoring both the *CCRN* and their feeder net or link at the same time. All communications between spokes should be coordinated through the hub (*CCRN*). Communications will be primarily by VHF and UHF repeater links. In the absence of the repeater links, communications will be via VHF and UHF simplex making use of relay stations as needed.

Specific concepts

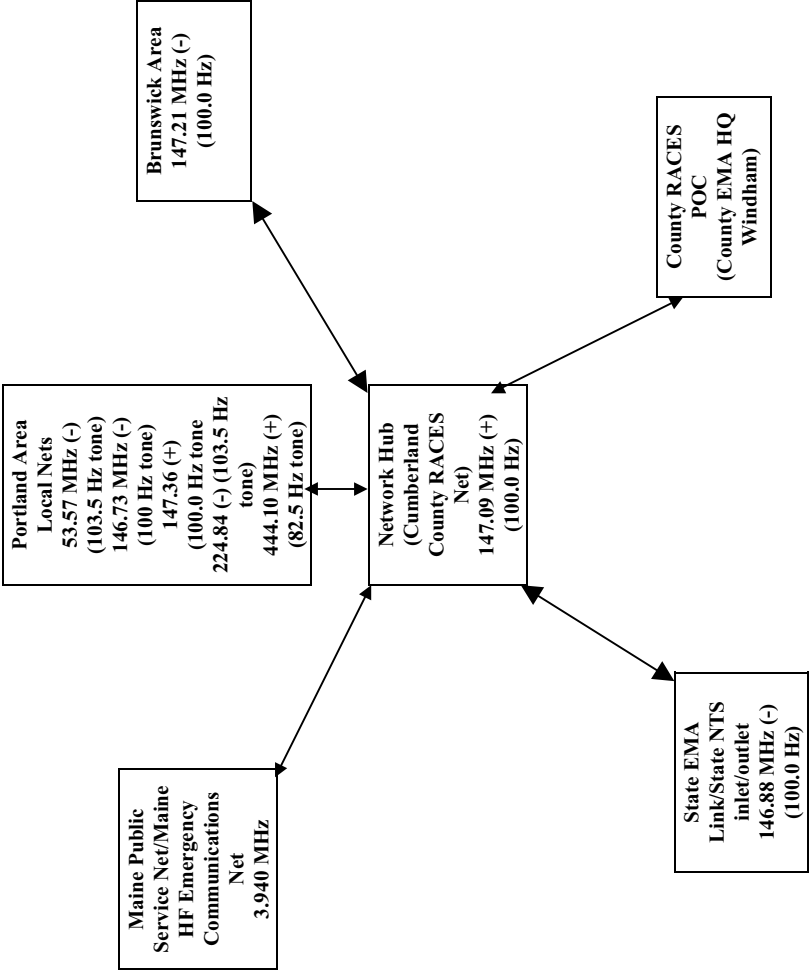
1. The *Cumberland County RACES Net (CCRN)* will be called on the 147.09 (+) (100.0 Hz) (W1QUI) repeater. In case of the failure of the repeater, the net will be called on 146.42 simplex. The appointed net control station (*NCS*) will direct all operations of the net. The *NCS* (in cooperation with and at the direction of the *County of Cumberland RACES Radio Officer (RO)/designated Assistant*) will direct the establishment and deletion of *spokes* (feeder nets and liaisons) off the *CCRN* and any change in frequency of the *CCRN*. Strict net discipline will be maintained by the *NCS*. The *NCS* will appoint all net liaison stations to various feeder nets (*spokes*) for the duration of the net. In the event of the failure of the repeater, the *NCS* will appoint relay stations to monitor the output frequency of the repeater for stations that might not be heard by the *NCS*. As soon as possible after failure of the repeater, the *CCRN* will shift frequencies to 146.42 simplex.
2. Feeder nets (*spokes*) will be established, as needed for local communications, on 147.045 (+) (100.0 Hz), 146.73 (-) (100.0 Hz) & 147.36 (+) (100.0 Hz) 147.525 simplex (Portland area). Net control stations (*NCS*) on the feeder nets (*spokes*) will have control of those nets. The *NCS* will be responsible to report any change in net status to the *CCRN (hub)* via the net liaison station. In case of failure of any of the listed repeaters, simplex operations will take place on a frequency designated by the *NCS*. Feeder nets (*spokes*) may also be established on 53.57 (-) (103.5 Hz) (Portland), 53.37 (-) (136.5 Hz) (East Parsonsfield), 224.84 (-) (103.5) (Cape Elizabeth) and on 444.10 (+) (82.5 Hz) (Cape Elizabeth) as required.
3. Liaisons (*spokes*) will be established (as needed) with the 12 County Net (VHF) and on the Maine Public Service Net/Maine HF Emergency Communications Net (HF). These *spokes* are established to

carry emergency traffic to the state level as well as maintaining contact in and out of the Cumberland County area. Packet communications links (*spokes*) may be established via the *GRAY* node (145.51) (Gray) or on other simplex frequencies as required.

4. After the cessation of the emergency situation, the County of Cumberland RACES Radio Officer (RO) , the County of Cumberland Assistant RO, Net Control Stations (NCSs), Liaison Stations and interested RACES members will meet to discuss the amateur radio emergency response and prepare an after action report to be forwarded to all involved agencies.

CUMBERLAND COUNTY ARES/RACES NETWORK PLAN

Prepared by Bryce Rumery
K1GAX
RACES Radio Officer
01-15-02





COUNTY OF CUMBERLAND RADIO AMATEUR CIVIL AMATEUR CIVIL EMERGENCY SERVICE (RACES)

DETAILED ACTIVATION PROCEDURES

Revised 01-15-02

Upon notification and request for service from the County of Cumberland EMA, the RACES Radio Officer (RO)/Designated assistant should proceed as outlined below:

Cumberland County EMA :

1. Activate the Cumberland County RACES Net on 147.09 (+) (100.0 Hz) (W1QUI/R) (alternate: 146.42 simplex) and advise all RACES members listening that a RACES response has been requested by the County of Cumberland EMA and advise all RACES members to stand by for further information on the net frequency.
2. If the net is activated by an someone other than the RACES Radio Officer, he or she will notify the RACES Radio Officer as soon as possible as to the activation and any details that he or she might have at the time.
3. The RACES Radio Officer (or designated assistant) and one other RACES operator will proceed to the County of Cumberland EMA headquarters (if requested) to coordinate the RACES response. As staffing assignments are made by EMA, the RACES Radio Officer (or designated assistant) will notify RACES members via radio (on the Cumberland County RACES Net) or telephonically and RACES members will be dispatched to meet the staffing needs.
4. If a RACES emergency response is requested from the County of Cumberland EMA and staffing at County EOC is needed, the net control function for the Cumberland County RACES Net will be delegated to a RACES operator at the County EOC. All coordination of the RACES response to the emergency situation will be done from County EOC. If staffing is not required at the County EOC, the RACES Radio Officer or designated assistant will coordinate all emergency responses from their present location or a location designated by the County of Cumberland EMA.
5. A formal net control station for the Cumberland County RACES Net will be appointed as well as net control stations for any other required feeder nets and liaisons as needed to meet the emergency response.
6. At the direction of the County of Cumberland EMA, all net operations will cease after the termination of the emergency response.
7. A meeting of as many participants as possible will be held after termination of the emergency response for the purpose of developing an after action report to be forwarded to the County of Cumberland EMA.

Appendix 1 - RACES tactical call signs

County of Cumberland EOC	<i>RACES CHARLIE CHARLIE</i>
County of Cumberland RACES Radio Officer	<i>RACES ROMEO OSCAR</i>
Baldwin	<i>RACES BRAVO ALPHA</i>
Bridgton	<i>RACES BRAVO TANGO</i>
Brunswick	<i>RACES BRAVO NOVEMBER</i>
Cape Elizabeth	<i>RACES CHARLIE ECHO</i>
Casco	<i>RACES CHARLIE ALPHA</i>
Cumberland	<i>RACES CHARLIE UNIFORM</i>
Falmouth	<i>RACES FOXTROT ALPHA</i>
Freeport	<i>RACES FOXTROT ROMEO</i>
Fryes Island	<i>RACES FOXTROT INDIA</i>
Gorham	<i>RACES GOLF OSCAR</i>
Gray	<i>RACES GOLF ROMEO</i>
Harpswell	<i>RACES HOTEL WHISKEY</i>
Harrison	<i>RACES HOTEL ROMEO</i>
Naples	<i>RACES NOVEMBER ALPHA</i>
New Gloucester	<i>RACES NOVEMBER GOLF</i>
North Yarmouth	<i>RACES NOVEMBER YANKEE</i>
Portland	<i>RACES PAPA LIMA</i>
Pownal	<i>RACES PAPA NOVEMBER</i>
Raymond	<i>RACES ROMEO ALPHA</i>
Scarborough	<i>RACES SIERRA ROMEO</i>
Sebago	<i>RACES SIERRA ECHO</i>
South Portland	<i>RACES SIERRA PAPA</i>
Standish	<i>RACES SIERRA TANGO</i>
Westbrook	<i>RACES WHISKEY ECHO</i>
Windham	<i>RACES WHISKEY INDIA</i>
Yarmouth	<i>RACES YANKEE ALPHA</i>

Appendix 2 - ITU phonetic alphabet, numbers and procedural signs

A - Alpha	B - Bravo	C - Charlie
D - Delta	E - Echo	F - Foxtrot
G - Golf	H - Hotel	I - India
J - Juliett	K - Kilo	L - Lima
M - Mike	N - November	O - Oscar
P - Papa	Q - Quebec	R - Romeo
S - Sierra	T - Tango	V - Victor
W - Whiskey	X - X-ray	Y - Yankee
Z - Zulu		

One - Wun	Two - Too	Three - Tharee	Four - Fower
Five - Fiyuv	Six - Siks	Seven - Sevven	Eight - Ate
Nine - Niner	Zero - Zearow		

Procedural signs:

<u>Pro sign</u>	<u>Meaning</u>
All after	words after (specify word)
All before	words before (specify word)
Over	I have ended my transmission. I am expecting a reply.
Out	I have ended my transmission. No reply is expected.
Say again	Repeat
Silence	All stations on the net stop transmitting immediately.
Silence lifted	Cancellation of Silence.
Wait	I must pause for a moment, please wait for me to resume.
Wait, out	I must pause for several minutes, please wait for me to resume.
Words twice	Repeat words twice.

Appendix 3 - FANOUT PROCEDURE

County of Cumberland Emergency Manager / Communications Officer

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County of Cumberland RACES Radio Officer

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County of Cumberland Assistant RACES Radio Officer

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RACES membership

COUNTY OF CUMBERLAND EMERGENCY MANAGEMENT AGENCY

RACES NOTIFICATION (WARNING)

Date: _____ **Time (local):** _____

RACES Radio Officer /Assistant RACES Radio Officer Name/Call sign: _____

Type and text of message

FANOUT EXERCISE:

WEATHER WARNING:

EMERGENCY MESSAGE:

Units notified (Name/Call sign):

_____	via () Radio () Telephone
_____	via () Radio () Telephone
_____	via () Radio () Telephone
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Mail to:

**Bryce P. Rumery, K1GAX
75 Ocean House Rd.
Cape Elizabeth, ME 04107**

RACES PERSONNEL REPORT

From: _____

RACES Radio Officer: _____

Assistant RACES Radio Officer: _____

RACES operators: _____

Signature _____ **Off. Abrev. _RACES** _____ **Ref. Group** _____
