

COWLITZ COUNTY RADIO AMATEUR CIVIL EMERGENCY SERVICES (RACES) PLAN

I. INTRODUCTION

- A. RACES is a special part of the amateur operation sponsored by the Federal Emergency Management Agency (FEMA). RACES was primarily created to provide emergency communications for civil defense preparedness agencies and is governed in FCC Rules and Regulations, Part 97, Subpart E, Section 97.407. Today, as in the past, RACES is utilized during a variety of emergency/disaster situations where normal governmental communications systems have sustained damage or when additional communications are required/desired. Situations that RACES can be used include: natural disasters, technological disasters, terrorist incidents, civil disorder, and nuclear/chemical incidents or attack.
- B. RACES is an organization of dedicated licensed amateur radio volunteers who provide radio communications in support of state and local government agencies during times of an emergency/disaster. RACES provides essential communications and warning links to supplement state and local government assets during these emergencies/disasters.
- C. The Amateur Radio Emergency Services (ARES) is the Amateur Radio Relay League's (ARRL) public service arm for providing and supporting emergency communications, where needed, when an emergency/disaster strikes. They operate using the ARRL Public Service Communications Manual as their guide. For purposes within this plan, ARES organizations are identified as primarily providing support for non-government agencies during an emergency or disaster.

ARES organizations/operators, during emergencies/disasters may be used if RACES resources are depleted or do not exist. If called upon to support government needs the ARES organization/operators will be considered as operating under RACES and will be registered as an emergency worker in accordance with RCW 38.52 and WAC 118.04.

- D. It should be noted that RACES and ARES licensed operators can hold dual registration in RACES and ARES. Further, it is encouraged by the ARRL that licensed amateur radio operators be registered/certified as both and that cooperative efforts between RACES and ARES organizations be established and maintained.

II. PURPOSE

The purpose of this plan is to provide guidance, establish responsibility, and ensure coordinated operations between Cowlitz County government officials and

the RACES organizations during times when there are extraordinary threats to the safety of life and/or property. Maximum benefits from the RACES organizations 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 organizations in local emergency plans and programs.

This plan, though issued separately, will be considered as Reference B to ESF #2 Telecommunications of the Cowlitz County Comprehensive Emergency Management Plan (CEMP).

III. SCOPE

The focus of this plan will address the responsibilities and procedures that the Cowlitz County Department of Emergency Management (CCDEM), and the county RACES Officer and organizations have for utilizing amateur radio during regional or statewide emergencies/disasters in support of Cowlitz County government agencies and others.

IV. AUTHORITY

- A. Federal Communications Commission Rules and Regulations, Part 97 subpart E, section 97.407 addresses RACES.
- B. FEMA Civil Preparedness Guide (CPG) 1-15, dated March 1991, titled: Guidance for Radio Amateur Civil Emergency Service

V. ORGANIZATION

- A. Per CPG 1-15, the CCDEM Director appoints, in writing, a reliable amateur radio operator to serve as the county RACES Officer. He or she may appoint assistants as needed. The county ARES Emergency Coordinator (EC) is appointed by the state Section Emergency Coordinator (SEC). The county ARES EC may appoint assistant ECs as needed.
- B. The Cowlitz County RACES Officer serves as the liaison between the RACES organization and the CCDEM Director, recruits members for the organization, and develops plans for the employment of the organization in support of the government agencies, which it serves.
- C. The RACES organization consists of volunteers who possess a valid FCC Amateur Radio Operator License. Additionally, RACES participants shall be registered as emergency workers with the CCDEM.
- D. ARES organizations may serve as RACES organizations as long as the requirements identified in CPG 1-15 are met. All amateur radio

organizations and/or individual operators within the state are encouraged to participate in the RACES program within respective jurisdictions.

VI. CONCEPT OF OPERATIONS

- A. Should the need arise, the CCDEM Director, based on this plan, may request the use of available volunteer communications equipment and personnel.
- B. The Director will contact the county RACES Officer and request that the RACES organization supporting the county Emergency Operations Center (EOC) bring up communications links between needed locations.
- C. Once contacted, the county RACES Officer will implement this plan. Amateur radio, through RACES organizations/operators, should be prepared to support the following tasks/missions at the local and regional levels:
 - 1. Back-up emergency direction and control communications between the state and Cowlitz County EOC.
 - 2. Back-up direction and control communications between jurisdictions within Cowlitz County.
 - 3. Back-up communications with Region IV counties and other counties in SW Washington as needed.
 - 4. Warning communications between state, county and local government agencies.
 - 5. Back-up emergency communications for state agencies as needed.
 - 6. Communications between the Cowlitz County EOC, local EMZ or ECCs, Incident Command Posts and staging areas and/or base camps.
 - 7. Back-up emergency communications for federal agencies (i.e. US Forest Service, Department of Energy and others), as needed.
 - 8. Communications and video (if available) support, as needed, for conduct of search and rescue operations, damage assessment, or other county government assigned tasks.
 - 9. Emergency communications for shelters, emergency worker centers, CCSO and police departments, the 9-1-1 center, fire departments/district, and other requirements designated by the CCDEM.
 - 10. Assist the 9-1-1 Communications Center (9-1-1 COMM) with

- activation of the alternate 9-1-1 dispatch site as needed.
11. Some requests or activities may not be communications related but involve emergency responses assisting public safety, emergency agencies and organizations.
- D. When activated to conduct the above tasks/missions, RACES organizations/operators will be employed in the network levels depicted in Annex A, Network Levels.
 - E. Network and frequency assignments are identified at Annex A, Appendix 2, Network Assignment and Frequencies. Message traffic should be sent/received using the message form in Annex B, Message Form.
 - F. Should additional amateur radio resources be needed for the above tasks/missions, requests for resources should be made through the Cowlitz County EOC and then to the state EOC.
 - G. This plan recognizes that amateur radio, primarily through ARES organizations/operators, will continue to support requirements for American Red Cross, hospitals, the business community, other non-government agencies, and the general public. If needed, the county RACES Officer will coordinate with the ARES emergency coordinators for employment of ARES organizations to support possible requirements identified above.

VII. RESPONSIBILITIES

- A. The Cowlitz County Department of Emergency Management (CCDEM) is responsible for:
 1. Ensuring a RACES Officer is appointed.
 2. Developing and implementing a RACES plan for the employment of amateur radio within the county. The local RACES plan should complement the Washington State RACES plan.
 3. Maintaining, at the EOC, a RACES radio station capable of communicating on appropriate and assigned amateur frequencies used within the county and region.
 4. Being prepared to provide amateur radio communications to state, federal, and other organizations located within Cowlitz County.
 5. Preparing and maintaining an Amateur Radio Resource List of amateur radio personnel who are available to support emergency communications missions away from home jurisdiction.
 6. Being prepared to receive traffic from the general public (licensed

independent stations) over local emergency nets.

7. Maintaining and executing this plan as needed. Identifying and coordinating the operation of amateur networks to support the operational requirements identified above.

- B. The Washington State Emergency Management Divisions (WSEMD), State RACES Officer shall be responsible for maintaining and executing the state plan as needed.

Annexes:

- A. Network Levels
- B. Message Forms
- C. Amateur Radio Resource Lists

References:

1. Amateur Radio Relay League (ARRL) Public Service Communication Manual
2. FEMA Civil Preparedness Guide (CPG) 1-15
3. FCC Rules & Regulations Part 97, Subpart E, Section 97.407
4. State of Washington RACES Plan

VIII. APPROVALS AND CONCURRENCES



Emergency Management Director

3-27-08
Date



Cowlitz County RACES Officer

3-27-08
Date

ANNEX A (NETWORK LEVELS) TO COWLITZ COUNTY RACES PLAN

I. PURPOSE

The purpose of this annex is to describe and provide guidance on the implementation of county level networks using amateur radio.

II. NETWORK LEVELS

For purposes of network management and control, county network levels will be established, as needed, to ensure emergency back-up communications are planned/coordinated for and are available to support emergency/disaster operations. Three network levels at the Cowlitz County level have been identified and are defined below to coordinate with the state RACES plan.

A. County Level

1. Local Operations 1 (OPS 1) - As depicted at Appendix 2 the OPS 1 network provides communications between the Region Net Control Station (NCS), the Cowlitz County EOC and Region IV counties.
2. Local Operations 2 (OPS 2) - As depicted at Appendix 2 the OPS 2 network provides emergency back-up communications between the Cowlitz County EOC, local agencies/command posts (i.e. Sheriff, fire department, 9-1-1 Center, public works department, staging areas/base camps, incident command post, and other government offices).
3. Local Operations 3 (OPS 3) - As depicted at Appendix 2 the OPS 3 network provides emergency back-up communications between county agencies/command posts and local/city ECC's and their respective elements that are in the field supporting operations.

III. CONCEPT OF OPERATIONS

- A. Upon activation of the EOC RACES station, a connection to the state or regional RACES station will be made following the state RACES plan protocols.
- B. OPS 2 and 3 nets will be established within the county as needed.
- C. The county EOC RACES Officer will coordinate with Region 4 RACES officers as necessary.

IV. RESPONSIBILITIES

- A. State Emergency Management
 - 1. Will activate the state RACES plan.
- B. Cowlitz County Emergency Management
 - 1. RACES Radio Officer
 - a. As directed, activate and supervise the operation of the RACES station at the EOC.
 - b. Assist respective local jurisdictions and county agencies/districts/command posts in establishing OPS 3 networks.
 - c. Coordinate and submit requests for amateur radio resources that may be needed to augment local operations to the State Emergency Management Division office.
 - 2. EOC RACES Station
 - a. Identify and designate the primary and alternate frequencies (HF, 2-meter, other) to be used on respective OPS 2 and 3 nets. Upon identification of frequencies, provide assignment to the Region Coordinator and State RACES Officer.
 - b. Send and receive message traffic for the county EOC using standard message handling procedures.

V. COORDINATING INSTRUCTIONS

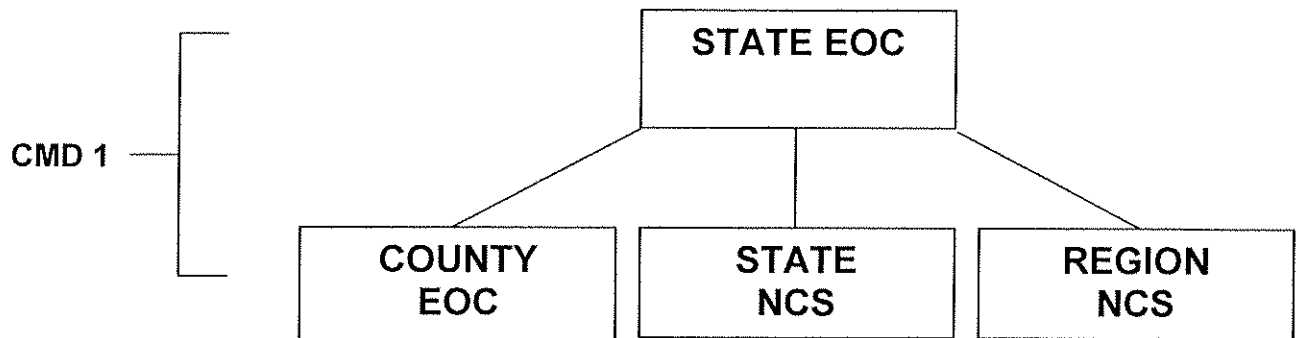
- A. Network assignments and frequencies are at Appendix 3. Use of the HF frequencies by OPS 1 through OPS 3 networks within affected areas must be coordinated by respective net control stations.
- B. When transmitting/receiving traffic, stations should use the ARRL Radiogram message form identified at Annex B. The form may be reproduced locally.
- C. Requests for amateur radio resources (operators/equipment) to augment/supplement local resources should be submitted through the EOC to the State Emergency Management Division according to the State RACES plan.

Appendixes:

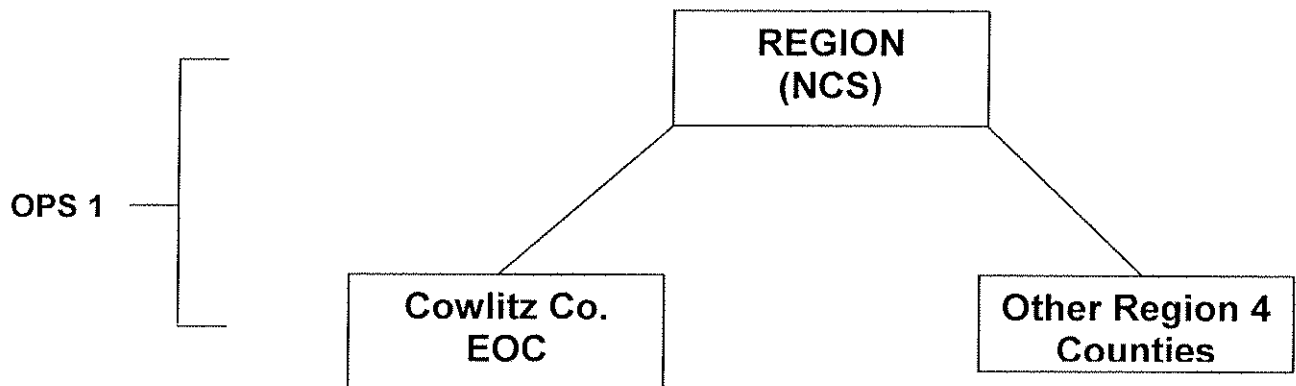
- 1 – State, Regional, and County Level Networks
- 2 – Network Assignment and Frequencies
- 3 – Acronyms Used by Cowlitz County ARES/RACES team

APPENDIX 1 – STATE, REGIONAL & COUNTY NETWORKS

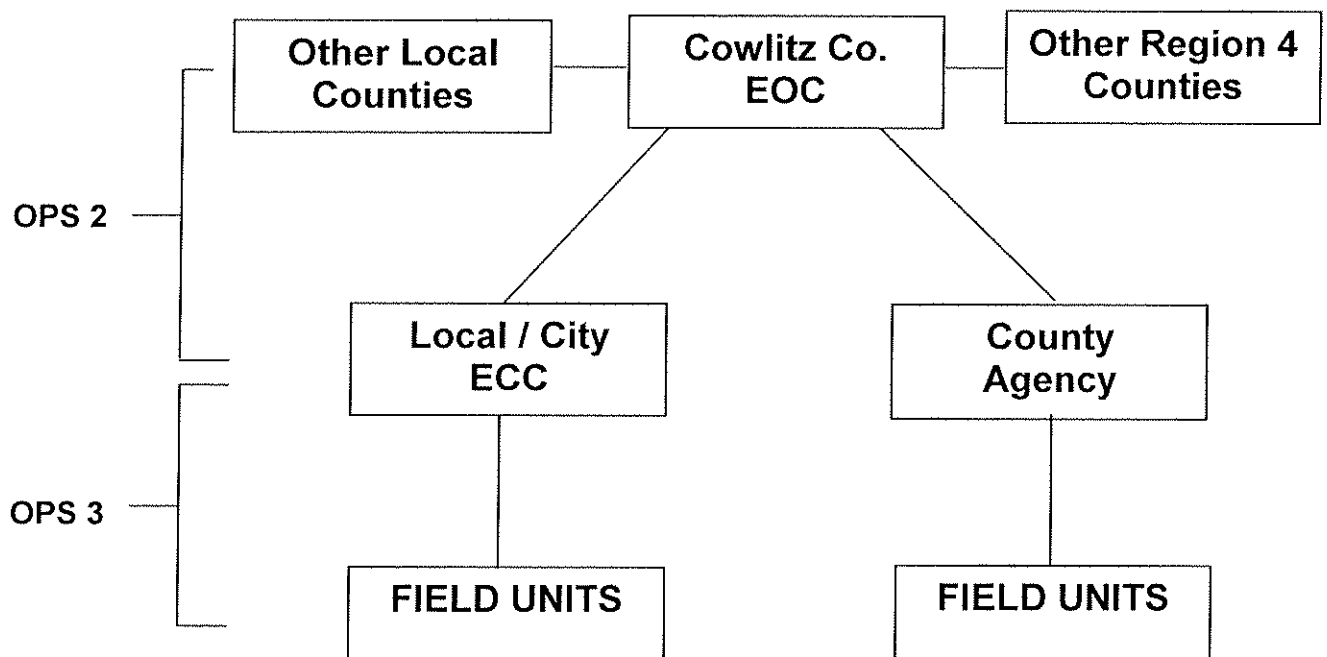
STATE LEVEL NETWORK



REGIONAL LEVEL NETWORK



COWLITZ COUNTY LEVEL NETWORK



APPENDIX 2 - NETWORK ASSIGNMENT & FREQUENCIES

I. STATE LEVEL & REGIONAL LEVELS

A. See State of Washington RACES plan.

II. COWLITZ COUNTY LEVEL

A. Operations 1 (OPS 1). OPS 1 network will be comprised of the following stations within the region. The RACES regions coincide with the Region Homeland Security Coordination Districts.

1. RACES Region 4 Counties

Clark County EOC
Cowlitz County EOC
Skamania County EOC
Wahkiakum County EOC

2. Counties that surround or are in close proximity to Cowlitz County that may need to be networked in the event of an emergency.

Washington State Region 3 Counties

Lewis County EOC
Pacific County EOC

Oregon State Region 1 Counties

Columbia County
Clatsop County

B. Operations 2 & 3 (OPS 2/OPS 3). OPS 2 and 3 networks will be comprised of the following stations within Cowlitz County and cities:

OPS 2: Cowlitz County EOC
Local/City EOC
County Department/Districts/Command Posts

OPS 3: Local/City ECC and/or County
Department/District/Command Post
Deployed field units/elements

III. FREQUENCY ASSIGNMENT

The State, Region, and/or County Net Control Stations may operate the networks previously discussed using any frequency within the amateur spectrum taking into consideration the capabilities of the stations within respective nets. National RACES frequencies are listed in subparagraph A.

A. National RACES Radio Frequencies

Per FCC Part 97, Subpart E, section 97.407, use of frequency bands and segments and emissions authorized for the amateur service are available on a shared basis to stations in RACES. In the event of a national crisis and the invocation of the President's War Powers, the frequencies listed below are designated for RACES, and only those stations participating in RACES are authorized to use them. Use of these and other amateur service frequencies should be coordinated with the State and/or County RACES Officers. These may be assigned and used on State and Local Level RACES nets.

1. 1800-1825 kHz 14.047-14.053 MHz 28.55-28.75 MHz
 1975-2000 kHz 14.22-14.23 MHz 29.237-29.273 MHz
 3.50-3.55 MHz 14.331-14.350 MHz 29.45-29.65 MHz
 3.93-3.98 MHz 21.047-21.053 MHz 50.35-50.75 MHz
 3.984-4.000 MHz 21.228-21.267 MHz 52-54 MHz
 7.079-7.125 MHz 144.50-145.71 MHz
 7.245-7.255 MHz 146-148 MHz
 10.10-10.15 MHz 2390-2450 MHz segments

2. 1.25 meter band
 70 cm band
 23 cm band

3. Channels at 3.997 MHz (USB) and 53.30 MHz (FM) may be used in emergency areas when required to make initial contact with a military unit and for communications with military stations on matters requiring coordination.

B. State and Cowlitz County Frequencies

See pages 13 - 14 for State and Cowlitz County Ham Radio Frequencies for RACES Operation.

Cowlitz County Ham Radio Frequencies For RACES Operation

Frequency in MHz	Washington State HF Radio Information	
3.985	Primary – Washington State Emergency Net – Initial check-in and Emergency Traffic	
3.994	Secondary – as needed – for Priority and Routine Traffic	
7.245	Alternate – Washington State Emergency Net	
5.373	Alternate – Washington State Emergency Net	
3.624	Pactor	
	Additional HF Radio Information	
5.332	Regional Coordination between sections and states	
5.348	Montana & Oregon	
5.368	Idaho	
5.405	National & International	
	Cowlitz County Packet & APRS Information	
145.090	LAN (Local Area Network) Frequency	
145.090	Goble Node – To out of the area Nodes	
145.590	Kelso Node – Local Area	
144.390	APRS – Relay point at LCARA Clubhouse	
	Cowlitz County Repeater Information	
147.260+	PL Tone 114.8	W7DG – ARES/RACES – Longview
147.300+	PL Tone 114.8	W7DG – ARES/RACES – Woodland
224.660-	PL Tone 114.8	NU7D – ARES/RACES – Rainier – EOC to ECC's or other area ECC's
442.125+	PL Tone 114.8	N3EG – Longview – Link to 52.525
444.900+	PL Tone 114.8	W7DG – Longview
	Cowlitz County Simplex Information	
147.260(s)	PL Tone 114.8	Simplex – 1 st Alternate – <i>**When Repeater is Down**</i>
144.440(s)	PL Tone 114.8	Simplex – 2 nd Alternate – LCARA Traveling Frequency – ELT Team
147.440(s)	PL Tone 114.8	Simplex – 3 rd Alternate – ELT Team – Other
144.470(s)	PL Tone 114.8	Simplex – 4 th Alternate – Assigned as needed
446.050(s)	PL Tone 114.8	Simplex – 5 th Alternate – Assigned as needed
223.560(s)	PL Tone 114.8	Simplex – 6 th Alternate – Assigned as needed
147.470(s)	PL Tone 114.8	Simplex – Ryderwood Area
147.420(s)	PL Tone 100.0	Simplex – Red Cross
144.470(s)	PL Tone 114.8	Simplex – Cross Band Linking to 220 and/or 440
223.560(s)	PL Tone 114.8	Simplex – Cross Band Linking to 144 and/or 440
446.050(s)	PL Tone 114.8	Simplex – Cross Band Linking to 144 and or 220

Additional Region Frequencies		
145.470-	PL Tone 100.0	Capital Peak Repeater
52.930-	PL Tone 100.0	Baw-Faw
147.060+	PL Tone 110.9	Baw-Faw Repeater – Long Range
145.430-		Toledo / Winlock Repeater
147.180+	PL Tone 82.5	Megler (Chinook)
147.240+	PL Tone 131.8	Clark County – Larch
443.925+	PL Tone 162.2	Clark County – Larch
146.880-	PL Tone 114.8	St. Helens – Columbia County DEM
145.350-		Clatskanie
52.810-	PL Tone 100.0	ARES/RACES – Nicolai
146.660-	PL Tone 118.8	Wickiup
147.320+		South Saddle – Long Range
224.720-	PL Tone 100.0	Clark County
Linked Repeater Systems		
147.200+	PL Tone 127.3	K7PP Repeater System – Washington State EOC
444.375+	PL Tone 123.0	AB7F Repeater System – Washington State EOC
147.180+	PL Tone 118.8	Beach Net Repeater System – Other PL Tones 82.5 and 114.8

Notes:

The 224.660 Repeater is used as a Command & Control frequency in Cowlitz County between the EOC, the ECC's, Incident Command Posts, and Comm-Van. In larger events Clark County, WA and Columbia County, OR also use the repeater for county interoperability. Wahkiakum County has been invited to be a part of this system

Cowlitz/Wahkiakum Counties ARES/RACES Net
Every Monday at 7pm on 147.260+ Repeater – PL 114.8

Appendix 3 - Acronyms Used By ARES/RACES In Cowlitz County

(R) Repeater	A transmitter and receiver located at a high location simultaneously re-transmitting a signal
(S) Simplex	Direct Communications – Radio to Radio
AEC	Assistant Emergency Coordinator
ARES	Amateur Radio Emergency Service
Comm-Center	Cowlitz County's Communications Center located at the Hall of Justice
Comm-Van	CCDEM's Emergency Communications Vehicle.
County	The 911 Operator handling the County Radio Traffic
County Main (R)	Main Radio Frequency use by Cowlitz County Sheriff's Office
County SAR (S)	Radio Frequency use in Cowlitz County for Search & Rescue activities
DEC	District Emergency Coordinator
DEM	Department of Emergency Management located at the Hall of Justice
DFing	Direction Finding
EC	Emergency Coordinator
ECC	Emergency Coordination Center
ELT	Emergency Locator Transmitter (Aircraft) 121.500 MHz – Military Aircraft 243.000 MHz
ELT Beacon	An emergency beacon that is activated on impact or manually.
ELT Team	Cowlitz County ELT Radio Direction Finding Team – Ham operators
EOC	Emergency Operations Center located at the Hall of Justice
EPIRB	Emergency Position Indicating Radio Beacon (Marine) 121.500 MHz
HF	High Frequency
HOJ	Hall of Justice
ICS	Incident Command System
Interferometer	Use by the ELT Team, an accurate method of direction finding using two antennas
Intergrading	Use by the ELT Team, monitoring a signal while in motion
LCARA	Lower Columbia Amateur Radio Association
LERN (S)	Radio Frequency – Law Enforcement Radio Net
OSCCR (S)	Radio Frequency – On Scene Command & Coordination Radio
RACES	Radio Amateur Civil Emergency Service
Reserves	Cowlitz County Sheriff's Reserves
Rizad Complex	The SAR Council's meeting room and vehicle storage buildings
RO	Radio Officer
RRO	Regional RACES Officer
SAR	Search And Rescue
SAR Coordinator	Cowlitz County Sheriff's Deputy In Charge of all SAR Activities
SAR Council	Cowlitz County Search And Rescue Council – The Units in the Council are: Cowlitz County Dive Rescue; Cowlitz County Search and Rescue; Lower Columbia Amateur Radio Association; Cowlitz County Sheriff's Explorers; Cowlitz County Sheriff's Reserves; U.S. Coast Guard Auxiliary; Civil Air Patrol.
SAR Team	Cowlitz County Search And Rescue Team
Starting Points	Designed points the ELT Team has established that have good cover over a large area

State SAR (S)	Radio Frequency use Statewide for Search And Rescue and Public Service activities
UHF	Ultra High Frequency
VHF	Very High Frequency

ANNEX B (MESSAGE FORM) TO COUNTY RACES PLAN

I. PURPOSE

The purpose of this annex is to identify and establish guidance for use of the message form when transmitting and receiving message traffic between stations.

II. USE OF THE ARRL RADIOGRAM

- A. The ARRL Radiogram (sample included at the end of this annex) will be used by all stations for passing of voice message traffic. If capability exists, the message form should be used via PACKET as well.
- B. To ensure messages are handled in an efficient manner, three levels of precedence have been established. The general criteria for choosing the appropriate precedence is explained in the instructions for the form. Message drafters are responsible for choosing the appropriate precedence. The precedence levels are:

EMERGENCY (E): Message concerns a situation where lives are endangered or gravely impacted and immediate action/response is required. Action/response should occur within 30 minutes to one (1) hour "after receipt" of message. **Emergency messages will be transmitted ahead of any priority or routine messages.**

PRIORITY (P): Message concerns a situation where a timely operational response is required that would ensure that lives are not further endangered. Action/response should occur within four (4) to six (6) hours "after receipt" of message. **Priority messages will be transmitted ahead of any routine messages.**

ROUTINE (R): Message(s) that reflect routine data reference operational, logistical, and administrative concerns. Action/response should occur within twelve (12) to (18) hours.

- C. An EMERGENCY precedence message must first be approved and initialed by responsible authority (i.e. Incident Commander (IC), EOC Supervisor) prior to transmission. PRIORITY and EMERGENCY messages should not exceed the maximum of 10 lines, 5 words per line, of uppercase 10-point typed letters or handwritten uppercase block lettering.



The American Radio Relay League
RADIOGRAM
 Via Amateur Radio

Number	Precedence	RX	Station of Origin	Check	Place of Origin	Time Filed	Date
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To:

This Radio Message was received at:	
Amateur Station _____	Date _____
Name _____	
Street Address _____	
City, State, Zip _____	

Telephone Number:

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

REC'D	From	Date	Time	SENT	To	Date	Time
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A licensed Amateur Radio operator, whose address is shown above, handled this message free of charge. As such messages are handled solely for the pleasure of operating, a "Ham" operator can accept no compensation. A return message may be filed with the "Ham" delivering this message to you. Further information on Amateur Radio may be obtained from ARRL Headquarters, 225, Main Street, Newington, CT 06111.

The American Radio Relay League, Inc. is the National Membership Society of licensed radio amateurs and the publisher of QST Magazine. One of its functions is promotion of public service communication among Amateur Operators. To that end, the League has organized the National Traffic System for daily nationwide message handling.

ANNEX C – AMATEUR RADIO RESOURCE LIST

The Amateur Radio Resource List, using the form below, will be prepared, maintained, and a copy submitted to the CCDEM by the county RACES officer, identifying those personnel who volunteer and can be available to support emergency communications.

When identifying personnel for this list, the following should be considered.

- Are the personnel registered as Emergency Workers?
- Are personnel willing to be deployed out of their “home” jurisdiction?
- Are personnel capable to be self-sustaining for up to 72 hours when deployed?
- Are personnel trained to set-up and operate equipment and handle message traffic effectively and efficiently under varying conditions/environments?

The information provided will be an invaluable tool for ensuring your resources are appropriately accounted for, particularly when personnel are deployed and possibly placed in harm’s way.

Tab A – Amateur Radio Resources List Form

INSTRUCTIONS FOR COMPLETING INFORMATION

- ORGANIZATION:** Organization name
- POINT OF CONTACT:** Provide the name of the person who will be the primary contact for coordinating use of personnel and/or equipment.
- PHONE NO.:** Provide a 24-hour contact number of the POC.
- NAME:** Provide name of individual (last name, first name, middle initial)
- CALLSIGN:** Provide amateur radio callsign of individual.
- LICENSE:** Indicate highest level of amateur radio license obtained. Levels (lowest to highest) are Technician, General, Advanced, and Extra.
- TYPE EQUIP.:** Using letter designator below, indicate type of equipment(s) individual can operate and/or has available for use.
- A - 2-meter voice
 - B- 2-meter packet
 - C - APRS
 - D - 6-meter voice
 - E - 40-meter voice and/or pactor
 - F - 80-meter voice and/or pactor
 - G - 220 and/or 440 MHz voice
- MOBILE/PORT.:** Using letter designator above, indicate which equipment is available for use in mobile and/or portable configurations.