Multnomah County, Oregon

ARES/RACES Multnomah County Training Plan

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Executive Summary

The Multnomah County Training Plan identifies the minimum requirements for both knowledge and skills-based training elements for individuals seeking full Multnomah County ARES/RACES membership status. The ARES/RACES Radio Operator (ARRO) Certificate is a requirement for full MCARES membership.

Minimum training standards are required to have an effective ARES Mutual Aid Team (ARESMAT) program within the Section. Emergency Coordinators (EC) and District Emergency Coordinators (DEC) requesting radio operators to augment their ARES unit must have reasonable assurances that the individuals selected for assignment have the necessary skills set to accomplish the requirements of the position they are being asked to fill, as do served agencies. A formal training program, regularly reviewed and updated, helps provide those assurances.

This training program is modular and progressive. It includes the basic tasks, skills and knowledge necessary to meet the challenge of being prepared for a diverse range of operations with a variety of organizations.

The *ARRO* certification is the foundation of this progressive training program. Members can choose to progress, learning additional skills that are central to performing our mission of meeting the emergency communication needs of the region. Three optional certifications are available, *Net Control and Field Radio Operator* (NCFO), *High Frequency Radio Operator* (HFRO), and the *Packet RMS Radio Operator* (PRRO).
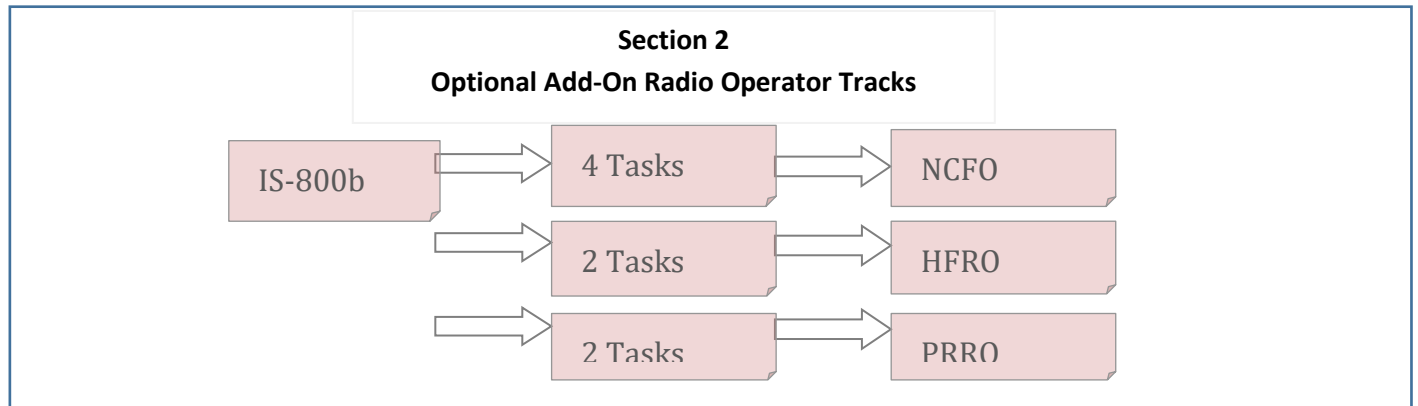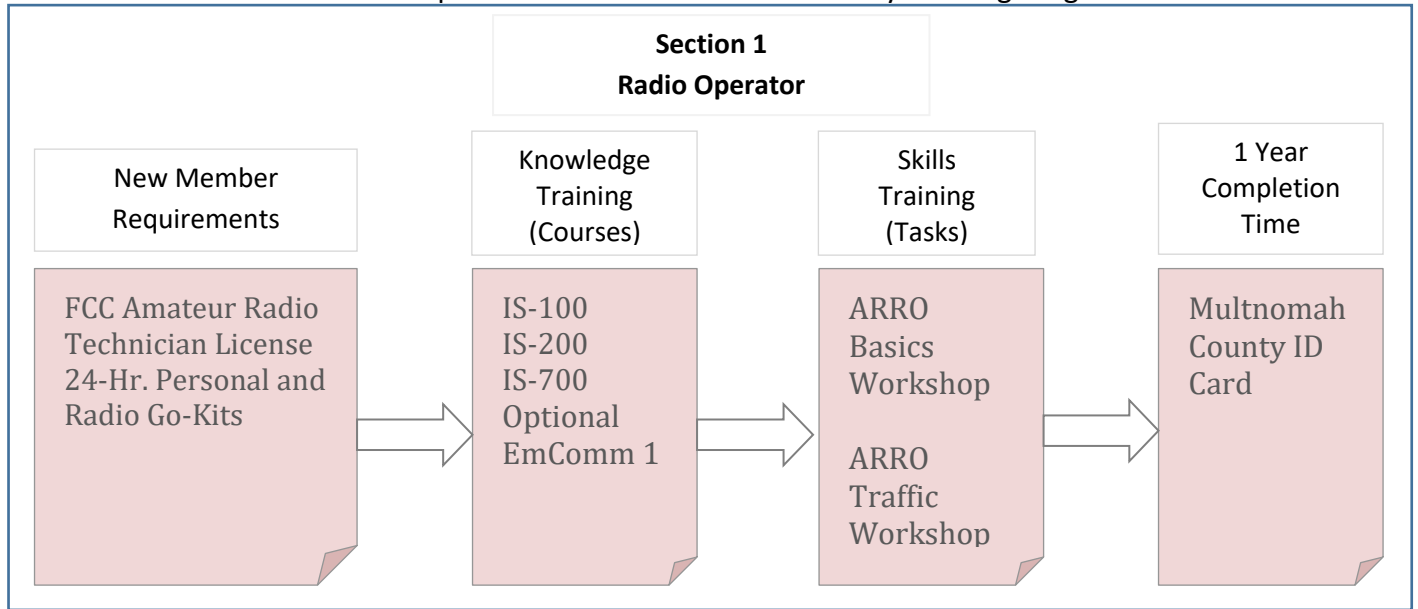
Section 1 of this plan details the required FEMA courses as well as some recommended training. All of which can be taken on line for no cost or a minimal cost. Additionally, there is a hands-on section that is typically covered with the member's team through drills and exercises.

New members have up to one year to complete the ARRO requirements and attain the ARRO certificate to be eligible for the Multnomah County Emergency Management (MCEM) Volunteer ID card. Members can stop with just that basic training or can continue to pursue any of the three Radio Operator certifications.

Section 2 describes the optional certifications: *Net Control and Field Radio Operator*, *High Frequency Radio Operator*, and *Packet RMS Radio Operator*.

Section 3 describes the training methods MCARES uses to prepare members to take their certification exams.

Pictorial Representation of Multnomah County Training Program

Section 1
Radio Operator

New Member Requirements	Knowledge Training (Courses)	Skills Training (Tasks)	1 Year Completion Time
FCC Amateur Radio Technician License 24-Hr. Personal and Radio Go-Kits	IS-100 IS-200 IS-700 Optional EmComm 1	ARRO Basics Workshop ARRO Traffic Workshop	Multnomah County ID Card

Section 2
Optional Add-On Radio Operator Tracks

IS-800b	4 Tasks	NCFO
	2 Tasks	HFRO
	2 Tasks	PRRO

Section 1

Multnomah County ARES/RACES Radio Operator Training Plan

Purpose

The purpose of the County Training Plan is to build the consistency, effectiveness, and professionalism of technical, task-oriented skills training that is conducted for the benefit of Multnomah County ARES/RACES unit members.

Goals and Objectives

- Provide a baseline task-based training and qualification program.
- The unique aspects of the Multnomah County ARES/RACES mission, seeks to develop common required core competencies (tasks) that can be counted on when personnel may be requested by other units for mutual aid or augmentation manning.
- Aid in recruiting and retention efforts by providing meaningful training that fulfills the expectations of highly motivated individuals.
- Provide a progressive training regimen that allows individuals to advance to a level of their choosing while still providing for the minimum skill sets necessary for an effective unit-level response.
- Provide for a documentation system that captures each individual's accomplishments and provides documentation for badging and credentialing.

Discussion

On a priority basis, a successful training program is on a par with the other major goal of the EC's program – keeping the Local EM satisfied that they are being well-served by the Multnomah County ARES/RACES program. Because it is unlikely that either can be accomplished in the absence of the other, this training plan is overseen by the EC and coordinated by the Training Manager. The program also leverages the expertise of members with particular knowledge and external resources.

New ARES/RACES Unit Member Initial Knowledge and Task Evaluations:

Within one year, new members will:

- Complete the Knowledge-based training courses *required* by FEMA and Oregon Section: IS-100, IS-200 and IS-700
- Attend two workshops, ARRO Basics and ARRO Traffic
- Complete the ARRO Task List

Once these requirements have been met, ARES will submit your paperwork and background check authorization to MCEM for issuance of a Multnomah County Volunteer ID card.

Recommended Enrichment Courses

NIMS IS-800 - The National Response Plan

ARRL EmComm Course EC-001

This course is available on line or in book form for self-study and may be given from time to time in a classroom setting. It "bridges the gap" between the Federal Incident Command System and Amateur Radio, expanding on the specific ways, means, and roles we can play in helping with emergency backup communications.

Multnomah County ARES/RACES Radio Operator Skills-based Task List

ARROs know how to operate their own radio as well as served agency or field go-kit equipment. They know basic net protocol, and Multnomah County ARES procedures and forms. ARRO certification is required of all active MCARES members within one year after joining.

Print Full Name	Call Sign
Obtain and provide certificates indicating completion of the required FEMA Courses.	

☐ IS 100	☐ IS 200	☐ IS 700

Equipment:

____Personal portable radio with manual: Make: _____ Model: _____

____Extra batteries _____, or other alternate power source: _____

____Personal go kit with items necessary for all personal needs for twenty-four hour deployment

Knowledge:

_____Explain what to do if signal not being heard

_____Recite ITU Phonetic Alphabet and spell a word or short phrase on demand

_____Explain what never to transmit

_____Explain differences between informal and formal traffic

_____Explain what to do when disaster strikes and normal communications are not functioning

_____Explain what to do upon arrival at deployment location

_____Define routine, priority, emergency, health and welfare, and life safety traffic

_____Explain when and why to listen on reverse

_____Explain when and why to disable repeater offset

_____Explain how to break a net for emergency

Demonstration:

Personal Radio

_____Turn on and off

_____Set Frequency

_____Set offset if not automatic

_____Set PL tone

_____Save frequency to memory and assign location

_____Recall memory channel

_____Change power level

_____Lock and unlock

_____Listen on reverse

_____Disable repeater offset

_____Have all Multnomah County ARES frequencies programmed in radio memory

Served Agency Equipment and/or fire station or Kent kit

     _____Set up and repack fire station or Kent kit

     _____Fill out inventory sheet in kit

     _____Turn on and off

     _____Change power level

     _____Switch between VFO and Memory modes

     _____Find Multnomah County frequencies in memory

     _____Set frequency and PL tone (OK to use cheat sheet)

     _____Listen on reverse

     _____Disable repeater offset (or find simplex repeater frequencies in memory)

Net Protocol

     _____Speak clearly

     _____Use personal, tactical and station (club) callsigns correctly

     _____Follow net protocol

     _____Correctly present traffic on a net

     _____Use *Roger, Over, Out and Clear* appropriately

Traffic Handling

     _____Fill out ICS 309 Communications Log

     _____Fill out ICS 214 Unit Log

     _____Copy an ICS 213 message accurately and legibly

     _____Copy an NTS message accurately and legibly

     _____Send an ICS 213 message

          _____Use appropriate speed

          _____Spell phonetically when necessary

          _____Use prowords correctly

     _____Format and send and NTS Message

Items initialed by: (Initial and sign)

_____   _____

_____   _____

_____   _____

Reviewed and Approved for Certificate by

EC: _____

Multnomah County ARES/RACES

Radio Operator

This certificate recognizes that

Debra L. Provo KK7DEB

Has met all of the knowledge and performance based standards of the Multnomah County ARES/RACES program to be recognized as an ARES/RACES Radio Operator, and based upon those skills, is qualified to perform such duties and services as may become necessary in the provision of emergency communications to Multnomah County.

Dated this 21st day of December, 2013

_____

Nathan Hersey, N9VCU
Multnomah County Emergency Coordinator
Multnomah County ARES/RACES

The above is an example of the certificate that is awarded upon completion of the knowledge and skills requirements for the ARES/RACES Radio Operator.

Section 2: Multnomah County ARES/RACES Optional Add-On Radio Operator Tracks

Net Control and Field Radio Operator

Multnomah ARES/RACES Net Control and Field Operator Task List

Net Control and Field: In addition to all ARRO requirements, can perform as net control for any net in any event, exercise or incident. We can feel comfortable sending this operator out of county to assist elsewhere. All Leadership and Team leaders should be at this level.

Print Full Name	Call Sign
Obtain and provide certificates indicating completion of the required FEMA and Multnomah County certifications	
☐ IS 800b	☐ ARRO

72 Hour Personal Go Kit. In addition to 24 hour ARRO kit, also has:

_____   Clothing changes

_____   Sleeping bag or bed roll

_____   Portable radio and power supply able to operate in field for up to three days

Knowledge:

_____   Explain how to handle emergency situation as net control

_____   State required information to be included in any net preamble and closure.

Perform net control for one ARES Weekly Net: Date: _____

_____ Follow script

_____ Identify every ten minutes

_____ Accurately log and acknowledge checkins

_____ Handle doubles

_____ Request repeats when necessary

_____ List traffic, assign traffic to AROs and track progress

_____ Deal with QSTs, questions, etc.

_____ Send net report to Net Manager

Perform Net Control duties for either two public service events or one public service event and one drill

Event #1 Name and Date**: _____**

_____Do net control for one of the following three:

_____ Resource Net, _____ Command Net, _____ Tactical Net

Event #2 Name and Date**: _____**

_____Do net control for one of the following three:

_____ Resource Net, _____ Command Net, _____ Tactical Net

_____ Have preamble and recite it at reasonable times

_____ Give AROs clear instructions

_____ Accurately log and acknowledge checkins

_____ Track location of AROs

_____ Use tactical and club callsigns appropriately

_____ Keep ICS 214 Station Log and ICS 309 Communications Log and submit copy to Training   manager. Submit original to EC.

_____ Handle traffic appropriately

_____ Work well with EC, and EM staff or event staff.

Items initialed by: (Initial and sign)

_____   _____

_____   _____

_____   _____

Reviewed and Approved for Certificate by

EC: _____

The

Oregon Section ARES/RACES

Net Control and Field Radio Operator

This certificate recognizes that
Achim Warth, N7XAH

Has met all of the knowledge and performance based standards of the Multnomah County ARES/RACES program to be recognized as an ARES/RACES Net Control and Field Radio Operator, and is thus qualified to perform such duties and services as may become necessary in the provision of emergency communications to Oregon Section ARES/RACES.

Dated this 25th day of September, 2014

_____
Nathan Hersey N9VCU,
Multnomah County Emergency Coordinator
Oregon Section ARES/RACES

above is an example of the certificate that is awarded upon completion of the knowledge and skills requirements for the Net Control and Field Radio Operator track.

High Frequency Operator

Multnomah ARES/RACES High-Frequency Radio Operator Task List

HF Operator: In addition to ARRO certification, HF operators should demonstrate an ability to make local and regional contacts below 30 MHz without causing harmful interference. All leadership and team leaders with HF capabilities should receive this certification.

Print Full Name	Call Sign
Has obtained and provided certificates indicating completion of the required FEMA and Multnomah County certifications	
☐ General Class license or above	☐ ARRO

Verbal Response

_____ Explain which HF bands to use to make statewide contacts during day/night

_____ Explain when & how to use RIT/Clarifier function

_____ Explain when & how to operate using split transmit/receive

_____ Explain proper station grounding & how to minimize RF exposure

_____ Explain Near Vertical Incident Skywave

_____ Explain how to determine current radio propagation conditions (including A- & K-index)

_____ Explain how space weather affects radio signals

_____ Explain how to prevent interference on HF bands (SSB)

_____ Explain impedance matching and why it's important

_____ Know common HF prowords & Q-codes

Practicum

_____ Calculate the length for a ¼ wave dipole for 20 and 40 meters

_____ Demonstrate use of antenna tuner or proper antenna tuning

_____ Demonstrate ability to make contacts on HF within and out of Oregon

_____ Demonstrate procedure for changing transmit power

_____ Demonstrate DSP, IF Filter, & gain adjustments

Items checked off by: (Initial and sign)

_____

_____

Reviewed and approved for certification by:

EC: _____

Oregon Section ARES/RACES

High Frequency Radio Operator

This certificate recognizes that
Adam Karol, KF7LJH

Has met all of the knowledge and performance based standards of the Multnomah County ARES/RACES program to be recognized as an ARES/RACES High Frequency Radio Operator, and based upon those skills, is qualified to perform these duties effectively and without harmful interference as they may become necessary in the provision of emergency communications for Multnomah County.

Dated this 20th day of November, 2014

_____
Nathan Hersey N9VCU,
Multnomah County Emergency Coordinator
Oregon Section ARES/RACES

Packet RMS Radio Operator

Multnomah ARES/RACES Packet RMS Radio Operator Certification Task List

Packet RMS Operator: In addition to all ARRO requirements, Packet operators demonstrate an ability to make RMS Gateway and Peer-to-Peer connections on VHF/UHF to send and receive email traffic. All leadership and team leaders with packet RMS capabilities should receive this certification.

Print Full Name	Call Sign
Obtain and provide certificate indicating completion of the required Multnomah County certification	
☐ ARES/Races Radio Operator	

Verbal Response

_____ Explain what software and hardware is needed for RMS packet operations

_____ Explain the difference between Peer-to-Peer and Gateway modes

_____ Explain the key elements of how Winlink spam filters work

_____ Explain how to bypass the Winlink spam filters

_____ Explain how you can get your RMS mail without a radio

_____ Describe the limitations of email attachments with RMS packet

_____ Provide the primary RMS gateway frequency and callsign for Multnomah County ARES

_____ Give two examples of gateways in neighboring counties

_____ Explain the difference between simplex and repeater operations and how that impacts RMS packet

_____ Provide examples of how one might improve their packet signal

Practicum

_____ Send an email via a local RF RMS gateway to another Winlink account and a non-Winlink address

_____ Send an email via telnet

_____ Send an email via a neighboring county RF RMS gateway

_____ Update the station catalog in RMS Express or Airmail and use it to pick an alternate gateway

_____ Send an email via Peer-to-Peer to another station

Items checked off by: (Initial and sign)

_____

_____

Reviewed and approved for certification by:

(EC) _____

Oregon Section ARES/RACES

Packet RMS Radio Operator

This certificate recognizes that
Adam Karol, K7LJH

Has met all of the knowledge and performance based standards of the Multnomah County ARES/RACES program to be recognized as an ARES/RACES Packet RMS Radio Operator, and based upon those skills, is qualified to make RMS Gateway and Peer-to-Peer connections on VHF/UHF to send and receive email traffic as may become necessary in the provision of emergency communications for Multnomah County.

Dated this _____ day of _____, 20__

_____
Nathan Hersey N9VCU,
Multnomah County Emergency Coordinator
Oregon Section ARES/RACES

The above is an example of the certificate that is awarded upon completion of the knowledge and skills requirements for the Packet RMS Operator track.

Section 3: Multnomah County ARES/RACES Implementation of Training Program

In addition to the training provided at our monthly meetings, workshops and on our weekly nets, skills and knowledge will be acquired and assessed in team meetings as well as in participation in drills, exercises, SETs, public service events and ARES and NTS nets, and by one-on-one mentoring when necessary.