



Stanislaus County Amateur Radio Emergency Service

ARES Field Guide

August 2025

FORWARD

This guide is intended to guide Stanislaus County ARES members during a time of activation. This guide should provide all members with step by step activation instructions.

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Stanislaus County ARES Officers

Stanislaus County Emergency Coordinator: James “Wally” Walsh, KK6CPN

Stanislaus County Asst . Emergency Operations: Scott Johnson, KN6RKY

Stanislaus County Asst . Emergency Technology Officer:

Patrick Dunbar, KG6AZZ

Stanislaus County Asst . Emergency Coordinator: Administration Officer,
Ed Hanna, KF6FIR

Stanislaus County Asst . Emergency Coordinator: Public Information Officer,
Greg Bernardi, KO6GJL

Stanislaus County Asst . Emergency Coordinator: Training Officer:

Mark Price, N6ARP

Stanislaus County Asst . Net Officer: John Otte, K6JRP

San Joaquin Valley Section Manager: Steven Hendricks, KK6JTB

San Joaquin Valley District Emergency Coordinator: Paul Owen, W6UHF

San Joaquin North Valley Section Emergency Coordinator: Dan Sohn,
WL7COO

Stanislaus County Office of Emergency Service

Ruben Wegner, Emergency Manager, KN6VNZ

ARES Officers can be contacted through the ARES Website

Stanislaus County ARES Website

www.stanares.org

Activation Protocol

The activation of Stanislaus County ARES will be executed in this order. ARES activation will come from the EOC management staff. The EOC will contact ARES officers in descending order as follows. ARES officers that receive activation orders will immediately contact the down line who will begin activating ARES members. No ARES member may take it upon themselves to activate or participate in an activation without authorization from the ARES officer.

EOC

Management Staff will activate ARES by contacting the following and proceeding down the list until at least 2 officers have been contacted.

ARES Activation contacts in descending order

1. Jim(Wally)Walsh

Kk6cpn@yahoo.co

209-450-9894

2. Ed Hanna

ed@kf6fir.net

209-450-9894

2. Scott Johnson

sliefjohnson@gmail.com

209-480-1222

4. Mark Price

mark99price@gmail.com

510-206-3608

5. John Otte

jrottejr@yahoo.com

209-262-8113

6. Paul Owen

w6uhf@aol.com

209-531-3322

Telephone Number

ARES Room

Emergency Operations Center

209-552-3885

209-552-3600

CREDENTIALS Activation/ Call Out Procedure ARES Members

Activation will be done by Activation Contacts:
KK6CPN, W6UHF, KF6FIR, K6JRO

Deployed ARES members must possess valid County issued ARES ID Card to work at locations such as, Hospitals, Emergency Operations Centers, Red Cross etc. These ID cards have the county logo.

ARES members that do not possess a valid County ID card, will be assigned to work directly under a credentialed member or to an alternate location.

Deployment is at the discretion of the ARES officers and in particular the ARES Operations officer in charge of the event or deployment.

Activation/ Call Out Procedure ARES Members

Activation will be done by Activation Contacts or ARES Officers:

The following will be used by ARES Officers to activate ARES personnel:

1. Repeater Notification
2. Electronic messaging via email & text to your smart phone
3. County Reverse 911
4. Telephone call via the Telephone Tree

First Things First

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What to Do First in Case of an Emergency

- 1) Check that you and your family are safe and secure before you respond as an ARES volunteer.
- 2) Check that your property is safe and secure before you respond as an ARES volunteer.
- 3) Monitor 145.390 or 440.225 MHZ local ARES emergency nets.
- 4) Follow the instructions you receive from the ARES officials in charge on the above frequency.
- 5) Contact your local Emergency Coordinator, or his/her designee, for further instructions.

Initial Action Checklist

The net control station and/or ARES officials on the designated emergency net will provide additional

instructions, including information on frequencies used for other resource and tactical nets. Normally, a resource net will enroll volunteers and provide information on how you can assist.

- ☐ Be prepared to operate. Check all equipment and connections.
- ☐ Check in with your assigned contact. Deploy to assignment with "Ready" kit.
- ☐ Obtain tactical call sign for your location/assignment.
- ☐ Initiate personal event log (use form at end of this booklet).
- ☐ Enter assigned frequency(s) on log sheet and on emergency/frequency plan.
- ☐ Use log form to record messages handled.
- ☐ Use a formal message form when a precise record is required.
- ☐ Use tactical call sign for your location, and observe FCC's 10-minute ID rule.
- ☐ Monitor your assigned frequency at all times. Notify NCS if you have to leave.

Equipment and Personal Checklists

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Basic Deployment Equipment Checklist

When responding to an emergency event, or even a training exercise, there is a minimum set of equipment and personal gear you should bring with you to get the job done. Basic items include:

- 2-meter mag-mount antenna and coax
- Earphone
- Paper and pencil
- ARES ID card
- Spare batteries
- SCARES Field Manual
- Appropriate clothing
- Assorted Spare Antenna connectors
- Map of Stanislaus County (encouraged)
- Food and water
- 2-meter / 70cm & Mobile radio
- Speaker/mike for HT
- Headphones
- Assorted Spare Fuses

The majority of these items should be kept in a "Ready Kit." Just pick it up on your way out the door for deployment. You might also consider the items on the following list for inclusion in this ready kit, designed to allow you to stay in the field for up to 72 hours.

Extended Deployment (72 hour) Equipment Checklist

- | | | |
|---|---|--|
| ☐ 3-day change of Clothes
☐ Foul weather gear
☐ Toilet Articles
☐ Shelter (tent and sleeping bag)
☐ Portable stove;
mess kit with cleaning kit
☐ Waterproof matches
☐ Flashlight
☐ Candles
☐ Alarm clock
☐ 3-day supply of water and food
☐ Liquid refreshments | ☐ First aid kit
☐ Throat lozenges
☐ Prescriptions
☐ Aspirin or other pain reliever
Additional radios, packet gear
☐ Power supplies, chargers
☐ Microphones
☐ Headphones
☐ Patch cords
☐ Antennas with mounts
☐ SWR bridge (VHF and HF)
☐ Extra coax | ☐ RF connectors and adapters
☐ Power, audio and other connectors and adapters
☐ Batteries
☐ Toolbox
☐ Soldering iron and solder
☐ VOM
☐ Electrical and duct tape
☐ Safety glasses
☐ Log books
☐ Message forms |
|---|---|--|

About Your "Ready Kit"

Power—Your 72-hour kit should have several sources of power in it, with extra battery packs and an alkaline

battery pack for your handheld. For mobile VHF and UHF radios, larger batteries are needed. Gel-cell, deep-

cycle marine batteries or LiFePO4 are good sources of battery power, and you must keep them charged and ready go. It is also wise to have alternate means available to charge your batteries during the emergency. You can charge smaller batteries from other larger batteries. You can build a solar charging device. If you're lucky, you may have access to a power generator that can be used in place of the normal electrical lines. Have more battery capacity than you think you might need. Have several methods available to connect your radios different power sources.

Gain Antennas—You can expect to need some kind of gain antenna for your handheld, as well as an

additional gain antenna that can be used on either your handheld or your mobile rig. The extra antenna might be needed by someone else, or your first antenna might break. For VHF and UHF, you can build a J-pole from TV twin lead for an inexpensive and very compact antenna. Have several lengths of coax in your kit, totaling at least 50 feet, and barrel connectors to connect them together.

Personal—Include staples: water, or a reliable water filtration and purification system; enough food for three days; eating utensils, a drinking cup and, if needed, a means of cooking your food. Shelter is also important.

Here, you are only limited by the size of your kit and the thickness of your wallet. Some hams plan to use their RVs as shelter, conditions permitting. Other disaster conditions may make the use of an RV impossible, so you should have several different plans for shelter. Light is important psychologically during an emergency. Make sure that you have several light sources available. Various battery-powered lights are available, and lanterns that use propane or other fuel are also good possibilities.

**Activation
Protocol
ARES
Members
Staffing & Deployment ARES Room**

The ARES room should be staffed as soon as physically possible.

First *RO arrival at ARES room:

- Assume EC position

- Monitor and Use SARA Repeater 145.390

- Clear repeater of unnecessary traffic

- Prepare ICS Forms to be utilized for assignments

STOP! Go no further, manage these items at this point, wait for assistance to arrive.

Second *RO arrives at ARES room:

- Assume Scribe/Runner position

- Take direction from acting EC

STOP! Refrain from operating equipment until instructed

by EC. Third *RO arrives at ARES room:

- Check in with EC for assignment

- (Operate secondary communications as requested by EC, VHF/UHF, Packet, APRS etc.)

Acting EC will hand off to County EC upon arrival

*RO = Radio Operator

**Activation
Protocol
ARES
Members
Staffing & Deployment Field Teams**

All field team members should deploy in teams of 2 when possible. All team members will report to the EOC once activated. Team members will be deployed from the EOC unless otherwise instructed.

All team members will be deployed by the Emergency Coordinator, or officer in charge. No ARES member will ever deploy themselves to a disaster. We only deploy at the request of the Stanislaus County Fire Warden.

Activation Protocol ARES Members Staffing & Deployment Dress Code

It is of the utmost importance that all ARES members always portray a professional appearance and behavior.

Professional behavior needs to be exhibited at all times during an activation as well as day to day. Please conduct yourself professionally in person, and on the radio to ensure all ARES members maintain the highest level of integrity.

All ARES members are expected to maintain good hygiene at all times, since most likely we will be working in cramped quarters or with public officials.

The dress code for activations is a simple acceptable presentation, please wear pants that do not contain holes or stains, jeans ok, as long as they are in good condition, again no stains or holes.

Collared shirts are required during a deployment, please no t-shirts or shirts that have stains or holes.

ARES name badges are required at every location during an

activation. ARES officers reserve the right to send you home if you

are non-compliant
with the above protocol.

ICS Forms for ARES

- ICS 201: Initial Response/Transfer of Command (designed to be a field response form)
- ICS 202: Objectives (includes weather, safety message, and boxes for attachments)
- ICS 203: ICS Organization (lists all supervisors, leaders, directors, chiefs, commanders, etc.)
- ICS 204: Branches, Divisions/Groups (specific assignments, mission, frequencies, etc. for each)
- ICS 205: Radio Communications Plan (consider a 205A or similar form for phone lists & other info)
- ICS 206: Medical Plan (for the workers/responders)
- ICS 207: Organization Chart (should mirror the 203)
- ICS 209: Incident Status Summary (great for IC's, PIO's, etc to serve as an update)
- ICS 211: Incident Check-In Form
- ICS 213: General Message Form
- ICS 214: Unit Log (activity log for everyone for the Operational Period)
- ICS 215: Operational Planning Worksheet (focuses on work assignments and resources needed)
- ICS 215A: Safety Hazards/Mitigation (for each of the work assignments listed on the 215)
- ICS 221: Demobilization Check-Out Form

ARES Room Emergency Coordinator Position (Standard Operating Procedures)

EC Activation Checklist:

1. Open ARES Room, Turn on all lights and Power supplies
2. Monitor 2 Meter Repeaters
3. Meet with Incident Command for Immediate needs
4. Assess staff and equipment needs
5. Prepare necessary ICS forms
 1. ICS-214
 2. ICS-205
 3. ICS-201
6. Assign Scribe
7. Assign ARES Room staff to tasks or positions
8. Assign field teams to locations as they check in
9. Contact Webmaster, Set Activation Status on Website
10. Contact Weather Operator to stand by for reporting

ARES

**Room
Position
One
(Standard Operating
Procedures)**

Set up equipment:

Using the Kenwood D-700
APRS Computer and TNC

Monitor

All Local Area APRS Activity on APRS computer
Establish radio communications with Weather Operator on
SARA Doubletree repeater
Monitor SARA repeaters for traffic handling

Action

Take regular weather reports from Weather Operator via
Secondary repeater (Formerly Doubletree)
Assist EC as needed
Monitor APRS Feeds
Handle VHF/UHF Traffic as needed

ARES Room Position Two (Standard Operating Procedures)

Set up equipment:

Using the Yaesu FT-1500

Using AZZ Packet & Winlink

Computer and TNC

Using Kenwood D700 for VHF/UHF communications

Monitor

UHF/VHF Local Repeaters

AZZ Packet or Winlink

Action

Assist EC as needed

Handle VHF/UHF Traffic as needed

Establish packet radio communications with deployed ham stations

Establish messaging outside of the county via Winlink to other ARES groups

Monitor SARA repeaters for traffic handling

**ARES
Room
Position
Three
(Standard Operating
Procedures)**

Set up equipment:

Using the Icom 756-Pro III

Set up the 2nd Pro III radio for WEFAX

Monitor

All Local HF Traffic in and around county
MARS Stations

Monitor SARA repeaters for traffic handling

Monitor 11 Meter Traffic

Action

Make contact in and out of the county during an incident

Assist EC as needed

*Make contact with MARS Stations outside of county

Handle VHF/UHF Traffic as needed

Handle 11 meter traffic from public

*Only MARS certified RO's.

ARES Activation - Demobilization

Directed by EOC/NET Control

All ARES members should check in regularly
Net control will issue a stand down order when appropriate
Once the ok is given to stand down, you may secure your
location
and depart.

ARES members must report to the EOC at the end of
their deployment, unless otherwise specified by
NET Control

Your demobilization should be logged in your ICS-214 form as
well
as ICS-221 Demobilization sheet.

LOCAL AREA FREQUENCIES



Local Area Frequencies

Name	Frequency	Off set	Tx Tone	Description
VHF Call	146.520	none	none	VHF Simplex
VHF Local	147.540	none	none	Local VHF Simplex
SARA Hi	145.390	- (negative)	136.5	SARA VHF Mt. Oso
SARA Lo	145.110	- (negative)	136.5	SARA VHF Downtown Modesto
MMC	146.355	+ (positive)	156.7	Memorial Hospital Modesto
TARC	147.030	+ (positive)	100.0	Turlock Amateur Radio Club Mt. Bullion
TARC	147.000	+ (positive)	100.0	Turlock Amateur Radio Club Turtle Dome Yosemite National Park
CARS	145.170	- (negative)	100.0	Calaveras Amateur Radio Society Fowler Peak
Stockton	147.165	+ (positive)	107.2	Stockton Delta ARC Sierra Nevada Mountains
Lodi	147.090	+ (positive)	114.8	Lodi Amateur Radio Club
Manteca	146.985	- (negative)	100.0	Manteca Amateur Radio Club Manteca Water Tower
TCARES	145.290	- (negative)	100.0	Tuolumne County Amateur Radio and Electronics Society Moccasin
UHF Call	446.000	No offset	No tone	UHF simplex
SARA	440.225	+ (positive)	136.5	SARA UHF Mt. Oso
TARC	444.700	+ (positive)	94.8	Turlock Amateur Radio Club Mt. Bullion
TARC	440.300	+ (positive)	94.8	Turlock Amateur Radio Club Kings Canyon Sequoia
CARS	441.0375	+ (positive)	151.4	Calaveras Amateur Radio Society Bear Valley (Mt. Reba)
CARS	441.875	+ (positive)	100.0	CARS Summit level Arnold linked to 145.170

Stockton	442.250	+ (positive)	107.2	Stockton Delta ARC Sierra Nevada Mountains
SARA	224.140	- (negative)	136.5	SARA 220 Mt. Oso
TARC	224.960	- (negative)	156.7	Turlock Amateur Radio Club 220 Mt. Bullion
PKT910	144.910	Simplex	No tone	Winlink RMS VARA FM / Packet
PKT050	145.050	Simplex	No tone	Winlink RMS VARA FM / Packet
PKT010	145.630	Simplex	No tone	Winlink RMS VARA FM / Packet
PKT010	145.010	Simplex	No tone	Winlink RMS VARA FM
PKT070	145.070	Simplex	No tone	Winlink RMS Packet
PKT690	145.690	Simplex	No tone	Winlink RMS VARA FM / Packet
PKT710	145.710	Simplex	No tone	Winlink RMS VARA FM / Packet

As of Feb 17, 2023

CARS vhf frequency corrected, and Lodi added January 27, 2023

Packet frequency added February 17, 2023

For further information please refer to each radio club's web site:

SARA www.saraclub.net TARC www.w6bxn.org CARS
www.calaverasars.org Stockton www.w6sf.org Manteca
www.facebook.com/groups/k6man TCARES www.tcares.net
Lodi www.lodiarc.net NorCal Packet Assoc. <https://ncpa.n0ary.org/>

PACKET NODES		
144.910	145.750	145.050
1200 Nodes	9600 Nodes	K-NODES
SARA	SARA	KTUO
MAR4	MAR4	BULN
MAR5		KEOC
TELE91		KBERR

Emergency Frequency

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET						Frequency Band		Description	
ICS 271A AGENCY: Stanislaus County ARES Page 1						AMATEUR RADIO		County ARES 09/25/2022	

	Channel Configuration	Channel Name or Trunked Radio System Talkgroup	Eligible Users	RX Freq N or W	RX Tone/NAC	TX Freq N or W	TX Tone/NAC	Mode A, D, or M	Remarks
1	LSB	80 Meter SSB	SJV Section	3.935	none	3.935	none	A	Primary SSB frequency
2	LSB	40 Meter SSB	Stanislaus ARES	7.295	none	7.295	none	A	Local NVIS
3	LSB	40 Meter SSB	Designated operators from participating counties	7.192	none	7.192	none	A	California Emergency Service Net (CESN)
4	Repeater	SARA VHF Oso	Stanislaus ARES	145.390 W	none	144.790 W	136.5	A	Primary repeater
5	Repeater	SARA VHF low level	Stanislaus ARES	145.110 W	none	144.510 W	136.5	A	Secondary VHF repeater
6	Simplex	Local VHF	Stanislaus ARES	147.540	none	147.540	none	A	Local VHF simplex
7	Repeater	SARA 220 Oso	Stanislaus ARES	224.140	none	222.540	none	A	Secondary 220 repeater
8	Repeater	SARA UHF Oso	Stanislaus ARES	440.225	none	445.225	136.5	A	Secondary UHF repeater

9	Packet/Vara	KG6DGZ-10 low level	Stanislaus ARES	144.910	none	144.910	none	D	Primary Data frequency/winlink gateway
10	Packet/Vara	K6IXA-12 Bullion	Any amateur radio operator	145.050	none	145.050	none	D	Secondary Data frequency/winlink gateway
11	Packet/Vara	K6IXA-13 Oso	Any amateur radio operator	145.630	none	145.630	none	D	Secondary Data frequency/winlink gateway
12	Packet/Vara	HF USB	Any amateur radio operator	TBD	none	TBD	none	D	TBD based on propagation and availability
13	Repeater	TARC VHF Bullion	Merced ARES	147.030	none	147.630	100.0	A	Monitor adjoining county
14	Repeater	Lodi VHF Bear Mtn.	San Joaquin ARES	147.090	None	147.690	114.8	A	Monitor adjoining county
15	Repeater	Tuolumne VHF Moccasin	Tuolumne ARES	145.290	none	144.690	146.2	A	Monitor adjoining county
16	Repeater	Calaveras Fowler Peak	Calaveras ARES	145.170	none	144.570	100.0	A	Monitor adjoining county

The convention calls for frequency lists to show 4 digits after the decimal place, followed by either an “N” or a “W”, depending on whether the frequency is narrow or wide band. Mode refers to either “A” or “D” indicating analog or digital (e.g., Project 25) or “M” indicating mixed mode. All channels are shown as if programmed into a control station, mobile, or portable radio. Repeater base stations must be programmed with the Rx and Tx reversed. **All users are responsible to have proper level amateur radio license for frequency used. ***

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET						Frequency Band		Description	
ICS 271A AGENCY: Stanislaus County ARES Page 2						AMATEUR RADIO		County ARES 09/25/2022	
	Channel Configuration	Channel Name or Trunked Radio System Talkgroup	Eligible Users	RX Freq N or W	RX Tone/NAC	TX Freq N or W	TX Tone/NAC	Mode A, D, or M	Remarks
1	Repeater	ARES UHF	Stanislaus ARES	441.875	136.5	446.875	136.5	A	StanARES portable UHF rprr.
2	Repeater	ARES UHF	Stanislaus ARES	442.275	136.5	447.275	136.5	A	StanARES portable UHF rprr.
3	Repeater	ARES UHF	Stanislaus ARES	442.800	136.5	447.800	136.5	A	StanARES portable UHF rprr.
16									

ICS FORM 217A

The convention calls for frequency lists to show 4 digits after the decimal place, followed by either an “N” or a “W”, depending on whether the frequency is narrow or wide band. Mode refers to either “A” or “D” indicating analog or digital (e.g., Project 25) or “M” indicating mixed mode. All channels are shown as if programmed into a control station, mobile, or portable radio. Repeater base stations must be programmed with the Rx and Tx reversed. **All users are responsible to have proper level amateur radio license for frequency used.***

APPENDIX

APPENDIX 1 – ARRL Communications Procedures

Voice	CW	Function
Go ahead	K	Used after calling CQ or at the end of a transmission, to indicate any station is invited to transmit
Over	AR	Used after a call to a specific station, to indicate end of instant
	KN	Used at the end of any transmission when only the specific station contacted is invited to answer.
Stand by or wait	AS	A temporary interruption of the contact.
Roger	R	Indicated a transmission has been received correctly.
Clear	SK	End of contact. SK is sent before final identification.
Leaving the Air	CL	Indicates that a station is going off the air, and will not listen for any further calls. CL is sent after the final identification.

CW Alphabet

A	■ ■ ■ ■ ■	S	■ ■ ■ ■ ■
B	■ ■ ■ ■ ■ ■ ■ ■ ■	T	■ ■ ■ ■ ■
C	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	U	■ ■ ■ ■ ■ ■ ■ ■ ■
D	■ ■ ■ ■ ■ ■ ■ ■ ■	V	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
E	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	W	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
F	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	X	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
G	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	Y	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
H	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	Z	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
I	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	1	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
J	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	2	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
K	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	3	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
L	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	4	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
M	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	5	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
N	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	6	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
O	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	7	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
P	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	8	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
Q	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	9	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
R	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	10	■ ■ ■ ■ ■ ■ ■ ■ ■ ■

NDIX 2 - ITU Phonetic Alphabet

Word list adopted by the International Telecommunication Union.

A ALFA	J JULIET	S SIERRA
B BRAVO	K KILO	T TANGO
C CHARLIE	L LIMA	U UNIFORM
D DELTA	M MIKE	V VICTOR
E ECHO	N NOVEMBER	W WHISKEY
F FOXTROT	O OSCAR	X X-RAY
G GOLF	P PAPA	Y YANKEE
H HOTEL	Q QUEBEC	Z ZULU
I INDIA	R ROMEO	

APPENDIX 3 - International Q Signals

Signal	Message	Signal	Message
QRA	What is the name of your station?	QRQ	Shall I send faster?
QRG	What's my exact frequency?	QRS	Shall I send slower?
QRH	Does my frequency vary?	QRT	Shall I stop sending?
QRI	How is my tone? (1-3)	QRU	Have you anything for me? (Answer in negative)
QRK	What is my signal intelligibility? (1-5)	QRV	Are you ready?
QRL	Are you busy?	QRW	Shall I tell you're calling him?
QRM	Is my transmission being interfered with?	QRX	When will you call again?
QRN	Are you troubled by static?	QRZ	Who is calling me?
QRO	Shall I increase transmitter power?	QSA	What is my signal strength? (1-5)
QRP	Shall I decrease transmitter power?	QSB	Are my signals fading?
		QSD	Is my keying defective?

Signal	Message	Signal	Message
QSG	Shall I send messages at a time?	QTA	Shall I cancel number ?
QSK	Can you work breakin?	QTB	Do you agree with my word count? (Answer negative)
QSL	Can you acknowledge receipt?	QTC	How many messages have you to send?
QSM	Shall I repeat the last message sent?	QTH	What is your location?
QSO	Can you communicate with direct?	QTR	What is your time?
QSP	Will you relay to ?	QTV	Shall I stand guard for you ?
QSW	Will you transmit on ?	QTX	Will you keep your station open for further communication with me?
QSX	Will you listen for on ?	QUA	Have you news of ?
QSY	Shall I change frequency?		
QSZ	Shall I send each word/group more than once? (Answer send twice or)		

NDIX 4 - FCC Rules

FCC Rules: Subpart E—Providing Emergency Communications

§97.401 Operation during a disaster.

A station in, or within 92.6 km (50 nautical miles) of, Alaska may transmit emissions J3E and R3E

on the channel at 5.1675 MHz (assigned frequency 5.1689 MHz) for emergency communications.

The channel must be shared with stations licensed in the Alaska-Private Fixed Service. The

transmitter power must not exceed 150 W PEP. A station in, or within 92.6 km of, Alaska may transmit

communications for tests and training drills necessary to ensure the establishment, operation, and maintenance of emergency communication systems.

§97.403 Safety of life and protection of property.

No provision of these rules prevents the use by an amateur station of any means of

radiocommunication at its disposal to provide essential communication needs in connection with the

immediate safety of human life and immediate protection of property when normal communication systems are not available.

97.405 Station in distress.

(a) No provision of these rules prevents the use by an amateur station in

distress of any means at

its disposal to attract attention, make known its condition and location, and obtain assistance.

(b) No provision of these rules prevents the use by a station, in the exceptional circumstances described

in paragraph (a), of any means of radiocommunications at its disposal to assist a station in distress.

FCC RULES: 97.407 Radio amateur civil emergency service.

(a) 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 with that organization, or it is an FCC-licensed RACES station. No person may be the control operator of a RACES station, or may be

the control operator of an amateur station transmitting in RACES unless that person holds an FCC-issued amateur operator license and is certified by a civil defense organization as enrolled in that organization.

(b) The frequency bands and segments and emissions authorized to the control operator are available to stations transmitting communications in RACES on a shared basis with the amateur

service. In the event of an emergency which necessitates invoking the President's War Emergency Powers under the provisions of section 706 of the Communications Act of 1934, as amended, 47

U.S.C. 606, RACES stations and amateur stations participating in RACES may only transmit on the frequency segments authorized pursuant to part 214 of this chapter.

(c) A RACES station may only communicate with:

(1) Another RACES station;

(2) An amateur station registered with a civil defense organization;

(3) A United States Government station authorized by the responsible agency to communicate with RACES stations;

(4) A station in a service regulated by the FCC whenever such communication is authorized by the FCC.

(d) An amateur station registered with a civil defense organization may only communicate with:

(1) A RACES station licensed to the civil defense organization with which the amateur station is registered;

(2) The following stations upon authorization of the responsible civil defense official for the organization with which the amateur station is registered:

(i) A RACES station licensed to another civil defense organization;

(ii) An amateur station registered with the same or another civil defense organization;

(iii) A United States Government station authorized by the responsible agency to communicate with RACES stations; and

(iv) A station in a service regulated by the FCC whenever such communication is authorized by the FCC.

(e) All communications transmitted in RACES must be specifically authorized by the civil defense organization for the area served. Only civil defense communications of the following types may be transmitted;

(1) Messages concerning impending or actual conditions jeopardizing the public safety, or affecting the national defense or security during periods of local, regional, or national civil emergencies;

(2) Messages directly concerning the immediate safety of life of individuals, the immediate

(2) Messages directly concerning the immediate safety of life of individual, the immediate protection of property, maintenance of law and order, alleviation of human suffering and need, and the combating of armed attack or sabotage;

(3) Messages directly concerning the accumulation and dissemination of public information or instructions to the civilian population essential to the activities of the civil defense organization or other authorized governmental or relief agencies; and

(4) Communications for RACES training drills and tests necessary to ensure the establishment and maintenance of orderly and efficient operation of the RACES as ordered by the responsible civil defense organizations served. Such drills and tests may not exceed a total time of 1 hour per week. With the approval of the chief officer for emergency planning the applicable State, Commonwealth, District or territory, however, such tests and drills may be conducted for a period not to exceed 72 hours no more than twice in any calendar year.

APPENDIX 5 – Mutual Assistance Team

Mutual Assistance Team (ARESMAT) Concept

The ARESMAT concept recognizes that a neighboring section's ARES resources can be quickly

overwhelmed in a large-scale disaster. ARES members in the affected areas may be preoccupied with mitigation

of their own personal situations and therefore not be able to respond in local ARES operations. Accordingly, communications support must come from ARES personnel outside the affected areas. This is when help may

be requested from neighboring sections' ARESMAT teams. The following is a checklist of functions for ARESMAT leaders.

Pre-Departure

Functions

- Notification of activation/assignment
- Credentials issued
- General and technical briefing • Review host SEC's invitation
- Transportation
- Accommodations
- Expected length of deployment reviewed

In-Travel Functions

- Review situation status, and sitreps
- Review job assignments
- Checklists
- Affected area profile
- Mission disaster relief plan
- Maps
- Technical documents
- Contact lists
- Tactical operation procedures

Arrival Functions

- Daily critique of effectiveness

- Check in with host ARES officials

- Obtain information:

Frequencies in use

Current actions

Available
personnel

Communication and computer
equipment

Support facilities
facilities

Host's ARES plan

- Establish initial intra-team
communication net • Establish HF or
VHF channel back to the home

section for morale
traffic

In-situ

Functions

- Initial
assessment

- Monitor host ARES officials'
communications

- Reduce duplication of
effort

- Proper safety
practices

Pre-Demobilization and Demobilization

Functions

- Extraction
procedure
negotiated
- Demobilization
plan in effect
- Team
critique
begun

ARESMAT Member

Qualifications

- High
performance
standards
- Qualifications
- Experience
- Team player
- Strong personal desire
- Strong interpersonal communication
skills
- Emergency management knowledge
- Respected by officials and peers
- Available with consent of employer
- Physically fit

ARESMAT

Concept Summary

It should be noted that there is a fine balance of authority over a deployed ARESMAT. The in-disaster SEC (or delegated authority) should be able to make decisions as to use and deployment of an incoming team. Therefore, an incoming team should be prepared to submit themselves to such authority; this is evidenced by the fact that any team, internal or external, has only a limited view of the overall operation. The supervising authorities will naturally have a better overview of the whole situation.

In turn, however, the in-disaster authority should be discouraged from abusing the resources of incoming teams. Should a team no longer be required, or a situation de-escalate, the team should be released at the earliest possible time, so that they may return home to their own lives.

The ARESMAT tool should be one of "last resort—better than nothing." Whenever possible, amateurs from the affected section should be used for support. It is a lot to ask of a volunteer to travel far from home, family and job for extended periods of arduous and potentially dangerous work.

APPENDIX 6 - Understanding our Memoranda of Understanding

The premier justification for continued access to our piece of the spectrum pie is, and always will be, public service. A major part of our public service activity is conducted in the context of the ARRL's national-level formal agreements (MOUs) with "heavy hitters" of the emergency management community.

An MOU provides a framework for cooperation and coordination with agencies to which we as radio amateurs provide communication services. At the national level, this means periodic headquarters-to-

headquarters contact to exchange news, views, information, and points of contact in the field. The idea is to get to know one another on a face-to-face basis, so that when an emergency happens you know who to call and who you can count on.

At the local level, an MOU serves two purposes. First, it's a door opener. A new ARES group is more likely to be heard and taken seriously by a local National Weather Service (NWS) office when accompanied

by a copy of the National agreement. The served agency says, in effect, we have examined this organization of radio amateurs and have found them to be trustworthy and able to render substantial and needed services for our field operations in times of emergency. The agency head is telling its field offices, "Go get 'em—they are good for us."

Secondly, once your foot is in the door, the provisions of the MOU document spell out the capabilities and organization of the servers (us), the organization and needs of the served agency (them), and the methods of operation. These are broad guidelines that lead to the establishment of a local memorandum of understanding or similar document that sets forth the detailed operational plans and policies to be subscribed to by both parties during drills, and actual events.

The most important step here is to ensure that both parties to the local agreement have a realistic assessment of the resources brought to the table by the servers, and the needs of the served. Please contact your ARRL section leaders or ARRL Headquarters if you have questions about local or national-level MOUs. More information and the text of our various MOUs may be found online at www.arrl.org/FandES/field/mou.

American Red Cross

ARRL and the Red Cross have had cooperative agreements since 1940. The current statement was signed in 2002. Chartered by Congress in 1905, the Red Cross provides relief to victims displaced by disaster, from the onset of disaster conditions to the recovery phase.

APCO International

The Association of Public-Safety Communications Officials (APCO)—International comprises communications professionals in emergency medical, law enforcement, fire, search-and-rescue and other public safety fields.

Civil Air Patrol

Members of ARRL and the Civil Air Patrol (CAP) share common goals of serving the public through efficient and effective use of radio communications. To this end, members of both organizations engage in regular training to prepare for emergency and disaster communications. Members of both organizations provide important communications capability to the Homeland Security programs of the United States.

Department of Homeland Security—Citizen Corps

In June 2003, ARRL became an official affiliate program of Citizen Corps, an initiative within the Department of Homeland Security to enhance public preparedness and safety. ARRL has worked very closely with FEMA since 1984 when an MOU was inked that helped ARRL volunteers coordinate their services with

emergency management at all levels of government. FEMA's job was as a "last responder," as opposed to first responders (the local, county and state emergency management agencies). Today, Citizen Corps groups are at the community level and state level to assist first responders.

National Association of Radio and Telecommunications Engineers

Founded in 1982, the National Association of Radio and Telecommunications Engineers (NARTE) offers an accredited certification program to qualified engineers and technicians, many of them Amateur Radio operators.

Its other activities include participation as a commercial operator license examination manager. Its primary mission is to promote professional excellence within the telecommunications industry and related areas.

National Communications System

The National Communications System (NCS) is a unique organization. It is a confederation of 23 organizations across the Federal Government tasked with ensuring the availability of a viable national security and emergency preparedness telecommunications infrastructure.

National Weather Service

Amateur Radio is almost synonymous with the SKYWARN program, the "eyes and ears" of the National Weather Service (NWS) during severe weather emergencies. Hams comprise the majority of SKYWARN volunteers, who report "ground truths" to local NWS offices, supplementing their sophisticated weather monitoring equipment.

Quarter Century Wireless Association

The Quarter Century Wireless Association (QCWA) and the ARRL recognize each other's efforts to support, protect, promote and advance the Amateur Radio Service.

REACT International

ARRL and REACT (Radio Emergency Associated Communication Teams) share common goals in terms of emergency communication. The primary mission of REACT is "to provide public safety communications to individuals, organizations, and government agencies to save lives, prevent injuries, and give assistance wherever and whenever needed."

Salvation Army

The Salvation Army has provided services to victims of disasters for decades, and it's particularly active in the recovery stage of disasters. Along with many other agencies, the ARRL and the Salvation Army also are member organizations to the National Voluntary Organizations Active in Disaster (NVOAD).

Society of Broadcast Engineers

ARRL is committed to helping develop future careers in RF Engineering and related technological fields. Our alliance with the Society of Broadcast Engineers (SBE) will help many hams gain the informational resources necessary to make sound career choices, as well as strengthen the exchange of technological innovation between hams and engineering professionals.

United States Power

Squadrons

The United States Power Squadrons (USPS), a national boating and educational organization, is dedicated to making boating safer and more enjoyable. USPS formalized an MOU with ARRL in 2005 linking the two services in their efforts to better serve the public. USPS is a world leader in speaking out for and promoting the needs of all recreational boaters.

THE END