ARES
Emergency Response Plan
for Hawai`i County

1 INTRODUCTION

1.1 The Amateur Radio Emergency Service® (ARES®) is an American Radio Relay League (ARRL) sponsored program that consists of Amateur Radio operators, licensed by the Federal Communications Commission (FCC), who have voluntarily registered their qualifications and equipment for public service duty in the event of a communications emergency.

1.2 The primary mission of the Hawai`i County ARES is to furnish communications to one or more served agencies in the event of a natural or man-made disaster when normal means of communications are inadequate or fail. ARES teams may provide local, county-wide, and/or state-wide communications as required by the nature of the disaster.

1.3 At the national level, ARES has a memorandum of understanding (MOU) with the Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA), Citizens Corp., Voluntary Organizations Active in Disasters (VOAD), American Red Cross (ARC), National Weather Service (NWS), and Salvation Army (SATERN).

1.4 ARES subscribes to and uses Incident Command System (ICS) protocols.

1.5 Federal regulations [FCC rules Part 97] prohibit the contents of formal messages handled by Amateur Radio operators from being divulged to unauthorized persons. Amateur Radio is a non-commercial licensed service and amateur radio operators may not be directly compensated for their participation.

1.6 The organizational structure of the Hawai`i County ARES leadership officials is summarized in appendix A. ARES volunteers report to an Emergency Coordinator (EC) in their local community who, in turn, reports to a District Emergency Coordinator (DEC). DECs report to the Section Emergency Coordinator (SEC). The SEC is responsible for sending reports to the ARRL Section Manager (SM) or his assistant.

1.7 In addition to the national organizations listed in 1.3 above, the following local agencies could be served under this plan: Hawai`i Emergency Management Agency, Hawai`i County Civil Defense Agency, Hawai`i County Fire Department, Hawai`i County Police Department, Community Hospitals, Community Associations, as well as other local agencies or groups requesting assistance with communications.

2 PURPOSE

2.1 The purpose of this plan is to provide a written guideline containing the minimum information that would be needed in a communications emergency.

2.2 This document shall be shared with our served agencies to clarify the structure and capabilities of the Hawai`i County ARES program.

3 ACTIVATION

3.1 In the event of a communications emergency, an official of a served agency should notify any one of the ARES leadership officials listed in appendix A of this document that Amateur Radio operators may be needed to provide backup communications for the agency. This notification may be pre-arranged for automatic activation.

3.2 Upon becoming aware that a communications emergency exists, the notified ARES leadership official will notify the DECs and ECs in the affected areas and request them to activate their teams.

3.3 ECs in the affected areas, or their assistants, will open tactical nets on the primary local VHF and regional HF frequencies and send an initial situation report (SITREP) to the DECs and to the SEC. The SEC is responsible for reporting to the SM.

3.4 Any member of an ARES team, who for any reason suspects a communications emergency may exist, shall activate the primary VHF and HF nets and report these conditions to the EC and/or the DEC or their assistants.

4 MOBILIZATION

4.1 Upon becoming aware that a communications emergency exists, all ARES members shall check into the primary local VHF net from their home, mobile, and/or portable station for information, instructions, and assignments.

4.2 The EC in an affected area shall contact the local ICS Logistics Officer in order to coordinate all ARES related communications activities with the ICS Incident Commander.

4.3 The EC shall dispatch individual mobile and/or portable units as the situation warrants.

4.4 The EC may designate one or more stations as "key stations" which shall be used extensively during the communications emergency.

4.5 If one or more of the designated emergency shelters should be opened, the EC may dispatch an emergency radio team (ERT) to operate a station at each shelter.

4.6 The EC shall assign a liaison station to the Big Island Wide Area Repeater Network (BIWARN) and the Hawai`i inter-island radio networks if the situation warrants.

4.7 The EC may direct the operators of home stations not on emergency power to provide support at designated key stations if the situation warrants.

5 OPERATION

5.1 All ARES members shall follow standard operating procedures governing public service communications promulgated by the ARRL and the FCC.

5.2 All radio networks will be directed nets and all stations shall call the designated net control station (NCS) for permission to transmit. Every ARES member is responsible for knowing and using proper net procedures.

5.3 Tactical call signs may be used as long as FCC rules regarding station identification are satisfied.

5.4 All formal messages originated from a served agency shall be written in either ARRL radiogram or ICS-213 format and each message shall be signed by the person who originated it and who takes responsibility for its content.

5.5 Training shall be an ongoing activity to ensure that Amateur Radio operators, who are members of the Hawai`i County ARES, will be ready to respond in the event a communications emergency occurs. Local tests and exercises shall be scheduled to maintain readiness.

5.6 The Hawai`i County ARES shall participate in an annual communications preparedness test, conducted in conjunction with the nationwide simulated emergency test (SET), sponsored by the ARRL and the Hawai`i Emergency Management Agency.
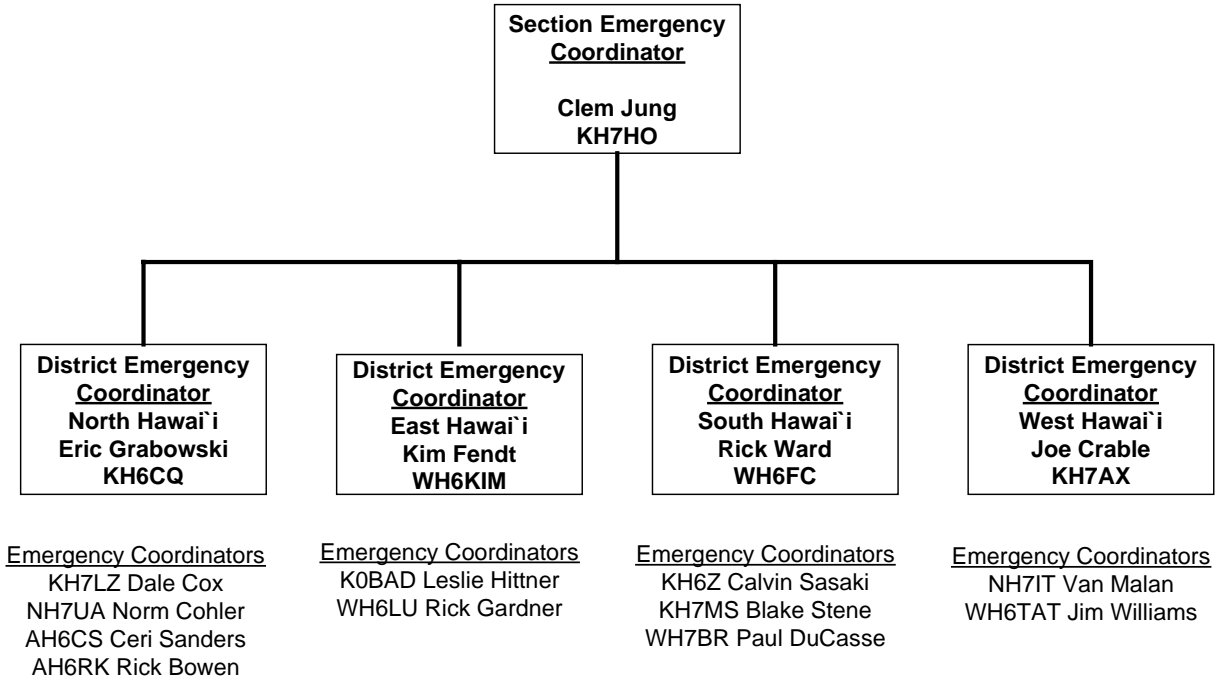
Appendix A
ARES Organization

Section Emergency
Coordinator

Clem Jung
KH7HO

District Emergency
Coordinator
North Hawai`i
Eric Grabowski
KH6CQ

District Emergency
Coordinator
East Hawai`i
Kim Fendt
WH6KIM

District Emergency
Coordinator
South Hawai`i
Rick Ward
WH6FC

District Emergency
Coordinator
West Hawai`i
Joe Crable
KH7AX

Emergency Coordinators
KH7LZ Dale Cox
NH7UA Norm Cohler
AH6CS Ceri Sanders
AH6RK Rick Bowen

Emergency Coordinators
K0BAD Leslie Hittner
WH6LU Rick Gardner

Emergency Coordinators
KH6Z Calvin Sasaki
KH7MS Blake Stene
WH7BR Paul DuCasse

Emergency Coordinators
NH7IT Van Malan
WH6TAT Jim Williams

**FIGURE A-1 Organizational Chart for Hawai`i County ARES as of 6 June 2016.
For the latest organization chart, please visit www.hawaiiares.info**

Contact List for ARES Leadership Officials

ARRL Leadership Position	Name	Location	Call Sign	Telephone*	E-Mail
SEC Pacific Section	Clem Jung	Oahu	KH7HO	H: C: 683.8163	kh7ho@arrl.org
DEC North Hawai`i	Eric Grabowski	Waikoloa Village	KH6CQ	H: 883.2536 C: 938.2536	kh6cq@arrl.net
DEC East Hawai`i	Kim Fendt	Mountain View	WH6KIM	C: 430.7297 C: 430.1884	wh6kim@gmail.com
DEC West Hawai`i	Joe Crable	Kailua-Kona	KH7AX	H: C: 987.1440	kh7ax@yahoo.com
DEC South Hawai`i	Rick Ward	Ocean View	WH6FC	H: 929.7673 C: 938.3058	wh6fc@arrl.net
EC North Kohala	Dale Cox	Kapa`au	KH7LZ	H: C: 557.2217	kh7lz@arrl.net
EC South Kohala	Norm Cohler	Kawaihae	NH7UA	H: 882.1092	nh7ua@arrl.net
EC Hamakua	Ceri Sandersr	Pa`auilo	AH6CS	H: C: 938.9012	cerisanders@gmail.com
EC Hamakua	Rick Bowen	Pa`auilo	AH6RK	H: C: 938.9012	RickBowen.PC @gmail.com
EC Hilo	Leslie Hittner	Hilo	K0BAD	H: C: 333.5938	k0bad@arrl.net
EC Lower Puna	Rick Gardner	Kurtistown	WH6LU	H: C: 989.4579	wh6lu@arrl.net
EC Kailua-Kona	Van Malan	Kalaoa	NH7IT	H: C:345.5008	konavan@gmail.com
EC Kailua Kona	Jim Williams	Kailua Kona	WH6TAT	H: C: 557.0797	cocacola808@gmail.com
EC South Volcano	Paul DuCasse	Volcano	WH7BR	H: 985.9222 C: 960.7024	wh7br@arrl.net
EC Captain Cook and Miloli`i	Calvin Sasaki	Captain Cook	KH6Z	H: C: 896.1000	kh6z@arrl.net
EC Ocean View	Blake Stene	Ocean View	KH7MS	H: 929.7350 C: 209.3160	kh7ms@yahoo.com

*Area code is 808. H is home telephone number. C is cellular telephone number. P is pager.
Revised 2016.06.06

Appendix B
Ham Radio Frequencies and Networks

High Frequency (HF) Voice

Frequency (kHz)		Mode	Network Name and Purpose
Day	Night		
3993.5	3993.5	LSB	State of Hawai`i RACES. Alternate frequency.
5330.5		USB	State RACES when 40 and 75 Meter frequencies are not operational
5371.5	5371.5	USB	Pacific Section ARES. Alternate frequency.
7080	7080	USB	SKYWARN activation for voice and MT63-1KL digital
7080	3900 5371.5	LSB USB	Healthcare Association of Hawai`i (HAH) HealthComm HF Net First Saturday every month 0900 HST
7088	3993.5 1870	LSB LSB	Pacific Section ARES Training Net Tuesday 1900 HST
7088		LSB	Primary 40 Meter State RACES for voice and MT63-1KL digital
7088	3888 1920	LSB	**Primary Mutual Aid Calling Frequency for the Hawaiian Islands. Pacific section hailing; 24 hours a day, 7 days a week.**
7095	3895	LSB	Big Island ARES. Big Island emergency traffic.
7280	3993.5	LSB	Secondary State RACES for voice and MT63-1KL digital
14,265	14,265	USB	Salvation Army Team Emergency Radio Network (SATERN)
14,315	14,315	USB	Pacific Inter-Island Net daily 2200 HST.
14,340	14,340	USB	California/Hawai`i Net M-F 0700 HST.

LSB is lower sideband; USB is upper sideband.

Very High Frequency (VHF) Voice

Output Frequency	Input Frequency	Mode	Network Purpose
146.52 MHz	146.52 MHz	WBFM SIM	Primary calling frequency and tactical traffic. (National Calling and Emergency Frequency)
146.46 MHz	146.46 MHz	WBFM SIM	Alternate calling frequency and tactical traffic. (Alternate National Calling and Emergency Frequency)
145.29 MHz PL=100 Hz (1Z)	144.69 MHz PL=100 Hz (1Z)	WBFM IBR	Ocean View repeater, WH6FC. Area-wide tactical traffic.
146.76 MHz	146.16 MHz PL=100.0 Hz (1Z)	WBFM IBR	BIWARN repeater in the Hilo-Puna area. KH6EJ ARES county-wide traffic.
146.88 MHz	146.28 MHz PL=100.0 Hz (1Z)	WBFM IBR	BIWARN repeater in the Hilo area. KH6EJ. ARES county-wide traffic.
146.92 MHz	146.32 MHz PL=100.0 Hz (1Z)	WBFM IBR	Pahala / Na`alehu repeater, KH6EJ. Area-wide tactical traffic.
146.94 MHz PL=110.9 Hz (2Z)	146.34 MHz PL=110.9 Hz (2Z)	WBFM IBR	Maui County Civil Defense Repeater linked to BIWARN for coverage in Kohala, Hamakua areas. KH6COM
147.02 MHz PL=103.5 Hz (1A)	147.62 MHz	WBFM IBR	State RACES repeater network. KH6HPZ State-wide traffic from West Hawai`i, Maui.
147.04 MHz PL=103.5 Hz (1A)	147.64 MHz	WBFM IBR	State RACES repeater network. KH6HPZ State-wide traffic from East Hawai`i.
147.16 MHz PL=100.0 Hz (1Z)	147.76 MHz PL=100.0 Hz (1Z)	WBFM IBR	BIWARN repeater in the Kailua-Kona area. WH6DEW ARES county-wide traffic.
147.24 MHz PL=100.0 Hz (1Z)	147.84 MHz PL=100.0 Hz (1Z)	WBFM IBR	ARES repeater for the North Hawai`i area. NH6EE
147.32 MHz PL=100.0 Hz (1Z)	147.92 MHz PL=100.0 Hz (1Z)	WBFM IBR	BIWARN repeater in the Waimea area. NH7HI ARES county-wide traffic.

WBFM is wide-band frequency modulation; IBR is in-band repeater; SIM is simplex;
PL is Private Line, a trademark of Motorola for CTCSS (continuous tone coded squelch system).

Ultra High Frequency (UHF) Voice

Output Frequency	Input Frequency	Mode	Network Purpose
443.650 MHz PL=100.0 Hz (1Z)	448.650 MHz PL=100.0 Hz (1Z)	WBFM IBR	Kailua-Kona and West Hawai`i vicinity.
444.975 MHz PL=162.2 (5B)	449.975 MHz PL=162.2 (5B)	WBFM IBR	North Kona and South Kohala
446.000 MHz	446.000 MHz	WBFM SIM	On-site tactical traffic; primary frequency. (National Calling and Emergency Frequency)
446.200 MHz PL=162.2 Hz (5B)	446.200 MHz PL=162.2 Hz (5B)	WBFM SIM	XBR-1: On-site hand-held portable radio extender for relay to a VHF repeater, e.g. BIWARN.
446.300 MHz PL=162.2 Hz (5B)	446.300 MHz PL=162.2 Hz (5B)	WBFM SIM	On-site tactical traffic; secondary frequency.
446.400 MHz PL=162.2 Hz (5B)	446.400 MHz PL=162.2 Hz (5B)	WBFM SIM	XBR-2: On-site hand-held portable radio extender for relay to a VHF repeater, e.g. RACES.

WBFM is wide-band frequency modulation; IBR is in-band repeater; SIM is simplex; XBR is cross-band repeater;
PL is Private Line, a trademark of Motorola for CTCSS (continuous tone coded squelch system).

High Frequency (HF) Digital

Frequency	Network Name and Purpose
1870 kHz USB + 1000 Hz offset	Tertiary Digital Frequency for Pacific Section
3545 kHz USB + 1000 Hz offset	Secondary Digital Frequency for Pacific Section
7070 kHz USB + 1000 Hz offset	Primary Digital Frequency for Pacific Section
14,070 kHz USB + 1000 Hz offset	International Digital Frequency

Very High Frequency (VHF) Digital

Output Frequency	Input Frequency	Mode	Network Purpose
144.39 MHz	144.39 MHz	1200 bps Packet	APRS (Amateur Position Reporting System), National network
			Digipeaters
145.01 MHz	145.01 MHz	1200 bps Packet	Lihue Kaua`i (LIHUE) State RACES KH6HPZ-3.
145.03 MHz	145.03 MHz	1200 bps Packet	West O`ahu (WOAHU) State RACES KH6HPZ-5.
145.07 MHz	145.07 MHz	1200 bps Packet	Haleakala (MAUI), State RACES KH6HPZ-7.
145.07 MHz	145.07 MHz	1200 bps Packet	S Kohala (BIN) Kohala Hamakua Radio Club KH6KCC-7
145.09 MHz	145.09 MHz	1200 bps Packet	Mauna Loa (MLOA), State RACES KH6HPZ-9.
145.11 MHz	145.11 MHz	1200 bps Packet	Diamond Head O`ahu (DHEAD) State RACES KH6HPZ-11.

Appendix C
County-Wide Served Agency Contacts

Agency	Name	Telephone*	E-Mail	Remarks
Hawai`i County Civil Defense	Ed Teixeira	B: 935.0031 B: 935.3311		CD Administrator; Hilo EOC After hours number.
Hawai`i County Fire Department		B: 961.8336		Non-emergency number.
		B: 961.8297 B: 961.8336	fire@co.hawaii.hi.us	Fire Chief
Hawai`i County Police Department		B: 935.3311		Non-emergency number for incident reports
American Red Cross	Barney Sheffield	H: 935.8305 C: 960.4981	sheffieldb@hawaii.rr.com	Hawai`i County Coordinator
National Weather Service		B: 973.5286 B:		Skywarn Reports: Primary: 1.800.833.0404 Secondary: 973.5280
Hospitals:				
Hale Ho`ola Hamakua	Romel Dela Cruz	B: 775.7211 F: 775.9977	romeld@hhsc.org	Director
Hilo Medical Center		B: 932.3000		
Ka`u Hospital	Nona Wilson	B: 928.8331	nowilson@hhsc.org	Emergency Coordinator
	Marilyn Harris			Hospital Administrator
Kohala Hospital		B: 889.6211		Kapa`au
Kona Community Hospital	Information	B: 322.9311		
North Hawai`i Community Hospital	Front Desk	B: 885.4444		
	Radio Room	B: 881.4696		Room 238
	Security	B: 881.4686	nhch.engineer@queens.org	Engineering
	Jennifer Rabalais	B: 881.4685 C: 881.4825	.	Safety Officer

*Area code is 808. H is home telephone number. B is business telephone number. C is cellular telephone number. F is FAX number.
Revised 2016.06.06

Appendix D
Hawai`i County Shelters

Name	Location	Telephone*	Contact Person	Position/Title
Kealakehe High, Intermediate and Elementary Schools	Kailua-Kona			
Kahakai Elementary School	Kailua-Kona			
Konawaena High and Intermediate Schools	Kailua-Kona			
National Guard Armory	Kealakekua			
Greenwell Park	Kailua-Kona			
Ho`okena Elementary School	Kailua-Kona			
Kamehameha Park Gym	Kapa`au			
Kohala High School	Kapa`au			
Pahala Elementary School	Ka`u			
Pahala Community Center	Ka`u			
Ocean View Community Center	Leilani Circle Ocean View		Marilyn Wallace	Red Cross Director
Sacred Hearts School	Na`alehu			
Ka` u High School	Ka`u			
Waimea Community Center	Kawaihae Road Kamuela, HI 96743	887.3014	Dean Dennis Matsuda	
Waimea Intermediate School	Mamalahoa Highway Kamuela, HI 96743	887.6090		
Waimea Elementary School	Mamalahoa Highway Kamuela, HI 96743	887.7636		
Waimea State Office Building	Mamalahoa Highway Kamuela, HI 96743	885.4138		
Hawai`i Preparatory Academy	Mamalahoa Highway Kamuela, HI 96743	885.7321		
Kahilu Theatre	Lindsey Road Kamuela, HI 96743	887.6368		
Honoka`a High and Intermediate Schools	Honoka`a	775.8800		
Honoka`a County Gym	Honoka`a			
Lester Bryan National Guard Armory	Honoka`a			
Waikoloa Elementary School	68-3690 Paniolo Avenue Waikoloa, HI 96738	883.6808	Kris Kosa-Corriera	Principal

*Area code is 808.
Revised 2013.05.23

Appendix E
Recommended Ham Radio Gear

FM Mobile Transceiver

Minimum Functionality: 45 Watts of RF power output on 2m, 35W on 70cm; 8 memory locations; PL encode.

Desirable Features: memory scanning; PL decode. Note that a dual-band mobile radio with the ability to receive one VHF and one UHF frequency simultaneously and with cross-band repeat capability is highly desirable.

Hand-Held FM Portable Transceiver

Minimum Functionality: 2m and 70cm, 1 Watt of RF power output; PL encode.

Desirable Features: PL decode; capability to monitor one VHF frequency and one UHF frequency simultaneously; spare battery packs; preferably an alkaline battery pack with extra cells.

HF Single Sideband Transceiver

Minimum Functionality: capable of operating SSB on 80, 40, and 20 meters.

Desirable Features: capable of operating on 160 and 60 meters; capable of operating from a 12 volt power source; portability.

Accessories

Earphones or Headset (no VOX).

Antenna Tuner.

Dummy Load.

A reliable off-grid power source such as a marine battery, solar array, or gasoline powered generator.

Anderson Powerpole® connectors wired to the ARES standard on all dc power cables.

A dc power cable with an Anderson Powerpole® connector at one end and a cigarette lighter plug at the other.

A dc power cable with an Anderson Powerpole® connector at one end and large alligator-style clips at the other.

A portable antenna system for HF operation capable of supporting near vertical incidence skywave (NVIS) propagation such as a half-wavelength dipole, a full-wavelength loop, or a G5RV dipole with an antenna tuner.

A portable antenna system for VHF and/or UHF operation such as a small beam, a J-pole, or a magnet-mount vertical.

A personal computer (preferably an IBM compatible portable) with a sound card (preferably one that is Sound Blaster compatible) and a radio-to-sound-card interface unit.