

Big Island Amateur Radio Club Newsletter

December 2019

Annual Christmas potluck party is at 2 p.m. Saturday, Dec. 14, at the Keau Community Center. All invited!



Treasurer Tony Kitchen, at left, and President William Polhemus discuss club's general good health.

In November, the club elected its new board of directors, which will be installed Dec. 14 at the annual Christmas party.

Photos by Linda Quarberg, WH6LQ

Find a way to help

The holidays are upon us, if you hadn't already noticed.

I could wax poetic about all of that cliché holiday stuff. However, I'm sure you get enough of that elsewhere.

The one bit of holiday cheer that I would like to remind everyone of is the BIARC Christmas party. That party will occur during our December meeting. It is a potluck affair. I hear rumors that we have volunteers to bake ham and turkey. But, unless we all want to start the Keto diet, the rest of us had better do something too.

When I was contemplating what to write this month, I thought of all the holiday things that people usually write about this time of



William Polhemus, BIARC president.

year; about giving, and giving back, and being with your loved ones, and also maybe your family.

I kept coming back to the motto of one of the last law enforcement agencies with whom I served. That motto is "find a way to help."

We do that in our hobby.

Some help by serving our community during times of disaster, and preparing for it during times of prosperity.

Some teach our craft to those around us.

Some help by deploying the infrastructures that others use in their efforts.

Amateur radio operators seem to find endless ways to help. And, we do it year round. Not just during the holiday season. I am thankful for the efforts of each and every one of you. This holiday season, like every other season, find a way to help.

I said that I wasn't going to wax poetic about the cliché holiday stuff. And, I seem to have failed. Please come to the holiday party and hold me accountable for having done so.

William - NH6ET

BIARC Board Meeting

November 9, 2019

12:08 Meeting called to order

Role Call (7) Quorum (6)

Board Members:

William Polhemus – President
James Huntley – Vice President
Leslie Hittner, Secretary
Tony Kitchen, Treasurer
Paul Ducasse – Station Custodian
Mel Uchida

Absent: Bob Schneider

Minutes of last Board meeting: Regular meeting on 10/12/19

Jim **moved** and Tony **seconded** that the minutes of last meeting be approved as published and distributed by email. Motion **passed**.

Treasurer's Report: The treasurer's report was submitted in writing. In summary, the current bank balance is \$2873 and there are 83 members in the club. Les **moved** and William **seconded** to accept the Treasurer's Report subject to audit. Motion **passed**.

Bob Schneider arrives.

Committee Reports:

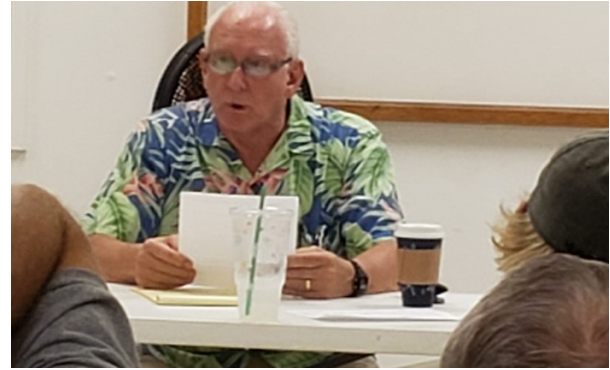
Digital Systems (Mel/James): (No report) Needs a Chairperson

Education and Outreach: (Report attached.) It was decided that the Membership Booklet additions should show version/date of publishing or modification and that a change record (Like is included with the By Laws) be included with the Membership Booklet. Les **moved** and Tony **seconded** to authorize up to \$175 to print 100 copies of the first Membership Booklet after the January Executive Board meeting. Motion **passed** by a unanimous voice vote.

Operating Activities: (No report)

Program: (No report) The January program will concentrate on digital systems: FLDIGI using the APRS Droid cellphone interface. A program discussing propagation is being planned for a future monthly activity. Committee members will seek feedback from the membership. William **moved** and Tony **seconded** to place Bob Schneider in the program committee. Motion **passed**.

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Secretary Les Hittner, KOBAD.

Membership unanimously approves new directors

The BIARC Board of Directors met at noon on Saturday, Nov. 9, prior to the club's first general membership business meeting under our new operating procedures.

Minutes from the board meeting are printed here. General meeting minutes will be provided for

approval at the next general meeting.

After the formal part of the general meeting was adjourned, President William Polhemus -- looking forward to the new year -- asked members to think about what we want for, and what we want from, the club.

At the November general

meeting, Treasurer Tony Kitchen reported BIARC membership stood at 85.

"The club is in a very strong position," said William.

Elected unanimously at the Nov. 9 meeting are six members to fill the six vacancies on the BIARC Executive Board.

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[Editor's note: Following circulation of these draft board meeting minutes, a change in projected programming was submitted by Mel Uchida on Dec. 2:

"Regarding the Committee Reports, the Program Committee is in the process of changing the topic of the January activity. We had been looking to present the topic of "Going Mobile" which would feature John Bush and Roy Kunishige. Due to John's travel schedule he may not be available after January, so we are hoping to move the topic to January. John is returning from Yap this week so we are awaiting confirmation from him that he will indeed be here on January 11, 2020. Jim has graciously agreed to reschedule his digital presentation to a later date. Mel, KH6EKD]

Public Service Communications: (No Report) The committee has been working on an MOU between BIARC and HCCD. Both the committee and HCCD are working toward an MOU that is more like a gentlemen's agreement without complex legal language. They are also going to propose a perpetual term. There have been rumors that the local Red Cross affiliate is not interested working with ham operators. The committee will follow up on that and attempt to improve relations with the Red cross, if necessary.

Voice Repeaters: (No written report) Ron Eibert has asked about the old Naalehu repeater. They are willing to have the repeater installed on their property under solar power. The site is high and VHF/UHF communications to Volcano Village and beyond should be possible. The committee is suggesting that newer and more energy efficient equipment be employed. There has been no further progress on the proposed MLOA repeater.

Records Retention Ad Hoc: Les has opened a Dropbox account and will begin moving archives to that cloud location. The retention policy awaits final approval.

Elections Ad Hoc: (No report) The current six (6) members of the Interim Executive Board are on the slate. No additional nominations have been received so far. Nominations will be closed at the Annual Membership Meeting. The one and two-year terms will be decided by the Executive Board members at their January meeting. A pre-printed ballot with the slate of officer candidates has been printed for use at the Annual Membership meeting, if needed.

Old Business:

Records Retention Policy: No action was taken

Marketing Plan: There was some discussion about listing BIARC as a Special Service Club with ARRL. No action was taken. William **moved** and Tony **seconded** that Marketing be assigned as a responsibility of the Education and Outreach Committee. The motion **passed**.

New Business:

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Clarence Smith, AH7A, silent key

Clarence Edward Smith, 90, AH7A, of Mountain View, Calif., formerly of Hawaiian Paradise Park, died Sept. 30 in Mountain View, Calif.

Born in Mississippi, he was a retired U.S. Air Force senior master sergeant, manufacturing manager and member of the Big Island Retired Military Association, Big Island Amateur Radio Club, Hawaii Association for Family and Community Education,

Quarter Century Wireless Association Chapter 194 and Veterans of Foreign Wars Post 3830.

No services. Survived by wife, Kay Denise Smith of Mountain View, Calif.; son Darryl (Martha) E. Smith of San Jose, Calif.; stepson David H. DiAndria Jr. of Roseville, Calif.; six grandchildren and 10 great-grandchildren. Arrangements by Dodo Mortuary.

MEETINGS, Continued

To be installed at the Dec. 14 meeting, the new directors are Les Hittner, Jim Huntley, Tony Kitchen, William Polhemus, Bob Schneider and Mel Uchida.

ARRL Legislative Advocacy Committee drafting new bill

Addressing Antenna Restrictions
The ARRL Board of Directors Legislative Advocacy Committee is in the process of drafting a new bill to address the issue of private land-use restrictions on amateur radio antennas.

The proposed legislation would be the successor to the Amateur Radio Parity Act. The Legislative Advocacy Committee, chaired by Pacific Division Director Jim Tiemstra, K6JAT, will report to the Board soon, once plans are fleshed out.

Tiemstra told the ARRL Executive Committee in October in Aurora, Colorado, that Advocacy Committee members have traveled to Washington to meet on multiple occasions with their staffs to inform them of the committee's plans.

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Approve BIARC Mission Statement: William **moved** and Paul **seconded** that the BIARC Mission Statement as modified by the board and published in the Membership Booklet be approved. Motion **passed**.

Approve Alan Okinaka as a member of the Voice Repeaters Committee. William **moved** and Les **seconded** that Alan Okinaka be added to the Voice Repeaters Committee membership. Motion **passed**.

Other Business:

William **moved** and Tony **seconded** that Leslie Hittner act as Chairperson of the Education and Outreach Committee. Motion **passed**.

Tony Kitchen asked for input in drafting 2020 budget for the club.

William suggested to the Program Committee a project – building paper antennas (with copper tape).

Mel asked about having an old equipment table at each monthly club activity and conducting a raffle or silent auction with the proceeds going to the club (See Secretary's note at the end of these minutes.)

Bob Schneider asked if we were interested in sponsoring a hamfest. The consensus of the Interim Board was that asking to partner with the Waimea sponsors of the current hamfest might be better than trying to sponsor an additional gathering. No plans for how that would happen were discussed and this item will be included as Old Business in January.

Adjourn: There being no further business, William adjourned the meeting at 13:20.

Respectfully Submitted,

Leslie Hittner, Secretary

10-10 International Aloha Chapter

Local hams active on 10-meters encourage amateur radio licensees at all levels to join in the fun. [More info on the world of Ten-Ten is available on Facebook and at <https://www.ten-ten.org>]

BIARC Mission Statement

The Mission of the Big Island Amateur Radio Club (BIARC) is to recruit, educate and help committed Ham Radio operators carry on the traditions of amateur radio by using our network of technical resources and expertise to provide equipment, skilled operators and emergency services when called upon in time of need and to assist and protect the citizens in the communities in which we live and serve.

BIARC is dedicated to community service and providing education to the general public about the history, operation, functions and benefits of the Amateur Radio Service. BIARC members adhere to the Radio Amateur's Code and are considerate, loyal, progressive, friendly, balanced and patriotic.

The Radio Amateur's Code

The Radio Amateur is:

CONSIDERATE...He/[She] never knowingly operates in such a way as to lessen the pleasure of others.

LOYAL...He/[She] offers loyalty, encouragement and support to other amateurs, local clubs, the IARU Radio Society in his/[her] country, through which Amateur Radio in his/[her] country is represented nationally and internationally.

PROGRESSIVE...He/[She] keeps his/[her] station up to date. It is well-built and efficient. His/[Her] operating practice is above reproach.

FRIENDLY...He/[She] operates slowly and patiently when requested; offers friendly advice and counsel to beginners; kind assistance, cooperation and consideration for the interests of others. These are the marks of the amateur spirit.

BALANCED...Radio is a hobby, never interfering with duties owed to family, job, school or community.

PATRIOTIC...His/[Her] station and skills are always ready for service to country and community.

-- adapted from the original Amateur's Code, written by Paul M. Segal, W9EEA, in 1921 and found on the ARRL website

On demand: EmComms self- guided course

ARRL's EC-001-S online "Introduction to Emergency Communication" course is now available to students in an on-demand format, allowing students to register for the course and begin work at any time. This course is designed to provide basic knowledge and tools for any emergency communications volunteer. In response to the great course demand and to expand access to EC-001,

ARRL developed a self-guided version of the course, EC-001-S, which launched in June. This version of the course is designed for those who prefer to work independently and who do not need guidance from an online mentor.

EC-001-S was previously offered only during specific sessions along with the traditional mentored version. The course opened for general enrollment on Nov. 6. Visit the ARRL Online Course Registration page for more information and to register.

More than 1 million contacts logged during 2019 ARRL Field Day

ARRL Contest Program Manager Paul Bourque, N1SFE, reports that nearly 1.1 million contacts were made during the 2019 ARRL Field Day -- the most popular operating event in North America. The results start on page 64 of the digital edition of the December issue of QST.

"This year, 3,113 entries were received from local clubs and emergency operations centers (EOCs), as well as individual portable, mobile, and home stations," Bourque wrote in QST. Most entries were in Class A -- club or non-

club groups of 3 or more.

Of the contacts, approximately 46% were on phone, and 456,000 (42%) made on CW. The remaining 138,000+ (12%) of the contacts were made on digital modes, such as FT8 and RTTY.

Youth on the Air Camp coming to the Americas

The Electronic Applications Radio Service (EARS) has announced that the first Youth On The Air (YOTA) camp in the U.S. is set to take place in June. Sponsors hope the camp will become an annual event.

The inaugural summer camp will take place June 21-26 at the National Voice of America Museum of Broadcasting in West Chester Township, Ohio. The West Chester Amateur Radio Association (WC8VOA) will host the event. EARS is a 501(c)(3) charitable organization dedicated to wireless technologies and activities.

According to the announcement, the camp will focus on building peer and mentor relationships and taking amateur radio "to the next level."

Campers will learn and exercise on-the-air skills at special event station W8Y. For more information, email camp Director Neil Rapp, WB9VPG, or call (812) 327-0749.

Southern California hams support major terrorist attacks response drill

Seventy southern California amateur radio volunteers deployed to 30 local hospitals, clinics, and city emergency operations centers on Nov. 6 to support public safety and emergency medical functions during a mock terrorist response drill that tested law enforcement and medical treatment facilities in San Diego County.

The scenario was a coordinated attack at two locations 50 miles apart that resulted in mass casualties and inundated local emergency departments with 1,000 volunteer actors suffering from simulated injuries and frantic families (also actors) trying to locate loved ones.



Nathaniel Frissell, W2NAF

HamSCI founder Nathaniel Frissell, W2NAF, wins \$1.3 million Ionosphere Study Grant

Nathaniel Frissell, W2NAF, now a University of Scranton physics and electrical engineering professor, has won a \$1.3 million National Science Foundation (NSF) grant to study weather effects in the ionosphere by leveraging a network of amateur radio stations.

Frissell is perhaps best known within the amateur radio community as the founder of HamSCI, the Ham Radio Science Citizen Investigation initiative. The Distributed Arrays of Small Instruments (DASI) project will be implemented over 3 years. As principal investigator, Frissell -- a space physicist -- will head a collaborative team that will develop ground-based space science observation instruments and software. His research effort will recruit multiple universities and radio amateurs to operate a network of personal space weather stations.

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Get info on digital nets and protocol via locally produced YouTube videos

Hi all,

After the last ARRL statewide Simulated Emergency Test (SET) there were inquiries about how other ARRL Sections handle digital nets.

The ARES LAX Northeast District has been using Packet and VARA FM in support of local hospitals for years.

Oliver Dully (K6OLI) the DEC for that district agreed to spend time with a few of the Hawaii SET participants in a small group Internet seminar. The session was recorded and edited by Tim Bryan (KH6TOB) and turned into YouTube videos by Natalie Cash (WH6NC).

If you have interest in learning how group education and net management are operated in the new world of digital communications, it is a worthwhile view. Even if you think that it does not completely apply to moving some of our Hawaii voice nets into this new digital paradigm, there may be points that can help.

There was a Q&A

session after the seminar which addressed some Hawaii situation questions. That may be made available in the future.

LAX ARES Digital Nets: Part 1

<https://www.youtube.com/watch?v=1B2osqH49oI>

LAX ARES Digital Nets: Part 2

<https://www.youtube.com/watch?v=FRMTH3oiGJs>

LAX ARES Digital Nets: Part 3

<https://www.youtube.com/watch?v=OaY6JdhBy6I>

Here is an overview of the history of the LAX Digital group that was presented to the Honolulu County RACES group back in August.

LAX ARES Hospital Overview

<https://www.youtube.com/watch?v=6bw--nE5BQc&t=222s>

ARRL Pacific Section Section Manager: Joseph Speroni, AH0A ah0a@arrl.org

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"I'm very excited," Frissell told ARRL. "This grant is extremely exciting for both ham radio and ionospheric research. Perhaps more than the money, it means that the NSF is recognizing the good work that we, as hams, are doing and the contribution we can make in the future."

Frissell said the grant demonstrates that the scientific community is taking amateur radio seriously. "This is great for ham radio, as it provides yet another avenue for us to contribute to the art and science of radio in a meaningful way," he said.

The space weather equipment will be developed at two levels of sophistication -- one at a low-cost, easy-to-use level for radio amateurs, and another, more complex version for university partners that will allow the collection of additional data.

"The equipment and network allows us to measure and characterize ionospheric and geomagnetic short-term, small-scale variability on a large geographic scale in order to understand the response of the ionosphere to sources from above (space weather) and below (atmospheric forcing)," Frissell explained in his grant proposal.

"By designing personal space weather station variants at multiple price points, open sourcing the hardware and software, and directly engaging with the ham radio community, this project maximizes the chances of widespread adoption of this system."

Frissell intends to focus his recruitment efforts through HamSCI and TAPR.



Ham radio emergency communicators can provide both voice and data modes.

Ham radio in emergency operations

[Ceri Sanders, AH6CS, shares this informative article by Steve Aberle, WA7PTM, of Vancouver, WA, which first appeared in June 2017 in the Domestic Preparedness Journal. (<https://www.domesticpreparedness.com/preparedness/ham-radio-in-emergency-operations/#>) Ceri is a BIARC member and the owner and coordinator of the Internet group Big Island RADIO and the Big Island Reflector.]



Steve Aberle, WA7PTM

Many people grew up hearing about disasters in far-off lands and how amateur (ham) radio operators were initially the only means of contact with the outside world. Disasters, both near and far, still occur today, and ham radio operators continue to volunteer their skills and personal radio equipment to serve the public. From a planning and operations perspective, emergency management professionals must effectively include these volunteer resources into comprehensive emergency management plans (CEMPs).

Ham radio was the original electronic "social media" with initial contacts between radio stations taking place in the 1890s. Federal licensing of ham radio stations began after The Radio Act of 1912 was passed, and today all ham radio stations are strictly regulated by the Federal Communications Commission (FCC) under US 47 CFR §97.

The American Radio Relay League (ARRL), a ham radio member-society founded in 1914,

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established the Amateur Radio Emergency Service (ARES) in 1935. This standby radio service consists of “licensed amateur radio operators who have voluntarily registered their qualifications and equipment with their local ARES leadership for communications duty in the public service when disaster strikes.”

In 1952, the Radio Amateur Civil Emergency Service (RACES) was developed as a standby Civil Defense radio service governed by the FCC under US 47 CFR §97.407. RACES is activated by emergency managers in local, county, tribal, and state jurisdictions, uses Federal Emergency Management Agency (FEMA) protocols, and are the only ham radio operators authorized to transmit during declared emergencies when the president of the United States specifically invokes powers granted under 47 U.S.C. §606.

Understanding This Communications Resource

Ham radio operators come in all ages and from all lifestyles, and are essentially neighbors in the community. Each licensee has passed one or more extensive knowledge tests covering a multitude of topics, including FCC rules, operator and station license responsibilities, operating procedures and practices, radio propagation, electrical principles and electronic circuits, common transmitter and receiver



Steve Aberle has been active in the Amateur Radio Emergency Service (ARES) since 1976 and in Radio Amateur Civil Emergency Service (RACES) since 1979.

problems, antenna measurements and troubleshooting, basic repair and testing, non-voice communications, antennas and feed lines, AC power circuits, and safety.

Since ham radio is their hobby, many hams have decades of radio communications experience. Some may have professional broadcasting experience, and others may be current/former first responders. In standards that have arisen with the introduction of the National Incident Management System, ARES and RACES members may also:

Be registered emergency/disaster workers under state law;

Possess certificates for (sometimes many) FEMA training classes;

Have passed law enforcement background checks;

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May be engaged in other volunteer activities such as Search and Rescue (SAR) or Community Emergency Response Teams (CERT).

Knowing When/How to Use Ham Radio

The need for supplemental communications increases with incident complexity.

If, for example, the incident complexity is NIMS Type 5 or 4, and all communications needs are being handled through commercial services, there is no need for additional communications resources. When incident complexity reaches NIMS Type 3 or 2, regular communications systems may not be capable of normal capacity in the affected areas. Supplemental ham radio communications resources can fill the gap until regular communications are restored. Depending on the quantity of communicators needed and operational periods, deployment of emergency communications resources from outside the affected jurisdiction(s) is possible.

During major emergencies and disasters (NIMS Type 1 incident complexity), there may be major failures and overloading of the communications infrastructure, including the degradation or loss of the electrical grid, cellular phone network, Internet, public safety radio systems, and AM/FM radio systems. In such cases, supplemental emergency communications resources are needed in quantity and for extended periods until regular communications are restored.

FCC regulations permit ham radio operators to serve the public by communicating with non-amateur entities (e.g., FEMA, the National Weather Service, the military) during emergencies and disasters, and when specifically authorized by the civil defense (a.k.a. emergency management) organization for the area served (under RACES protocols):

47 CFR §97.111(a)(2) – Essential

communication needs and to facilitate relief actions;

47 CFR §97.111(a)(3) – With another FCC-regulated service;

47 CFR §97.407(d)(1) – Public safety or national defense or security;

47 CFR §97.407(d)(2) – Immediate life safety, protection of property, law and order, human suffering/need, combatting of armed attack or sabotage; and

47 CFR §97.407(d)(3) – Public information or instructions in civil defense and relief.

In many areas, or with supplemental resources from outside the affected area, ham radio emergency communicators can provide both voice and data communications modes.

Ham radio resources are available for emergency communications support to any public service agency, and can bridge interoperability gaps between served agencies on a local, tribal, and/or state level. Potential ham deployment locations include, but are not limited to, auxiliary command posts, emergency operations centers, emergency shelters, evacuation sites, fire stations, medical facilities, mobile disaster vehicles, police stations, public works sites, and volunteer intake centers. They can also be deployed to provide mobile links to:

Create communications links between similar agencies across political boundaries, especially where there are misalignments in frequency bands and modes;

Establish communications in locations outside the existing coverage areas of public service and commercial communications systems;

“Shadow” critical public officials and emergency management personnel to facilitate constant and rapid contact;

Monitor crucial infrastructure (such as highways and bridges) and provide periodic situation reports; and

Staff observation posts (river levels, flooding, damaged areas) and provide periodic situation reports.

While it is unlikely that ham radio will be able to replace all existing communications, the forte of this pool of volunteers is establishing critical communications under less-than-optimal conditions. For hams with solar-powered equipment, they can keep

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communications going well beyond the limitations of fuel reserves for motor-driven generators until the commercial infrastructure is restored.

Integrating ham radio into the emergency management community

[We get so sophisticated and we have gotten so used to the reliability and resilience in our wireless and wired and our broadcast industry and all of our public safety communications, that we can never fathom that they'll fail. They do. They have. They will. I think a strong Amateur Radio community [needs to be] plugged into these plans.— *Craig Fugate, FEMA Administrator (2009-2017), 3 May 2011*]

As a communications provider, ham radio falls under the Emergency Support Function #2 umbrella. Planning for a “when all else fails” communications scenario is essential for all jurisdictions, and there are multiple ways of achieving this goal at the state, tribal, and local levels.

Following are two examples:

Colorado enacted HB16-1040 in 2016 and put emergency communications provided via amateur radio into public law by establishing an Auxiliary Emergency Communications Unit within the state's Office of Emergency Management.

[The CEMP for Clark County, Washington, includes the paragraph:

Routine communications systems will be used to the greatest extent possible. When routine communication systems are ineffective, alternate methods, such as amateur radio, will be used to communicate between the EOC, field operations, mass care facilities, and the state emergency operations center (EOC).]

As a side note, in late 2015, the emergency manager in Clark County hosted a ham radio license class for his staff, and all emergency management personnel are now licensed ham radio operators.

The old adage about avoiding the exchange of business cards in the midst of an incident is the guidepost here. Each state has one or more ARRL member-elected volunteers who can put emergency management professionals in touch with local hams. So, if a jurisdiction has not yet established an ongoing working relationship with hams in the community, the section

manager listed on the ARRL website can direct these professionals to local ham radio resources.

It is difficult to maintain a cadre of active ham radio emergency communicators in areas that experience little actual activation of those volunteers. To overcome this, frequent involvement in drills and exercises is essential. The professionals need to feel comfortable working with the hams and vice versa. Not every exercise plan needs to include a communications outage in the scenario, but there is no reason messaging cannot take place in parallel by sending the same message over routine communications systems and also via ham radio.

Hams typically like to implement different technologies, so what is transmitted by voice in one exercise might go by digital mode (computer to computer connected to radios) the next, a video link after that, and maybe even via a ham radio satellite at some point. Therefore, give the hams a communications problem and see what they come up with for a solution. Do not dictate the way they should solve the problem, but rather the emergency communications needs requirements. And, make it interesting for the volunteers to keep them involved, because hams could be critical communications lifelines in disasters.

Steve Aberle has been active in ARES since 1976 and in RACES since 1979. He has served as an ARRL Official Emergency Station in the State of Washington since 1999, and his radio station at home operates on solar power. During his multifaceted career, he was a trooper with the Oregon State Police, a county emergency communications director, a data network manager and cybersecurity consultant. He has over four decades of experience in volunteer emergency communications planning, training, responses, mentoring, and exercise evaluation, and is a former mountaineering and Search and Rescue leader and instructor.