

The ARES Letter



May 15, 2024

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ARES® Briefs, Links

The 2024 ARRL National Convention will be conducted with the Dayton Hamvention® this week in Ohio. Attendees will have an opportunity to learn more about how amateur radio is relevant and highly involved in the modern emergency management landscape. ARRL Director of Emergency Management Josh Johnston, KE5MHV, will host an ARES booth, which will be supported by ARES leaders and members of the ARRL Emergency Communications and Field Services Committee.

On Friday, Johnston and four representatives from the Cybersecurity and Infrastructure Security Agency (CISA) will lead the forum "ARES®, SAFECOM®, and Building Relationships" as part of the ARRL National Convention track. CISA is the federal agency SAFECOM serves. Together, they'll lead a discussion about how amateur

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radio emergency communications groups can establish and foster relationships with served agencies. Johnston is ARRL's representative member of SAFECOM®. In 2023, [ARRL was elected to serve on SAFECOM®](#), a program of the US Department of Homeland Security. SAFECOM supports the public safety community to improve the emergency communications ecosystem. This relationship gives ARRL a seat at the decision-making table for emergency communications policy nationwide.

"Amateur radio operators are in a unique position to serve agencies of many different types, but that relationship has to be well established long before a crisis," said Johnston, who emphasized that local partnerships are just as important as national-level relationships. ARES groups work with local, state, and county governments, and non-government affiliated organizations, including local offices of the American Red Cross, the Salvation Army, and faith-based organizations.

The forum will be held this Friday, May 17, at 9:15 AM in forum room 3, where the majority of ARRL National Convention programming will take place. The National Convention program is published at www.arrl.org/expo and in the [ARRL Events](#) app. ARRL has released [two new courses](#) to train emergency communications operators for volunteering within ARES. Both courses are published in the ARRL Learning Center. In 2023, the Federal Emergency Management Agency (FEMA) [revised the Guide for National Emergency Preparedness](#) to specifically include amateur radio. ARRL and FEMA entered into a new Memorandum of Understanding in May 2023 that outlined the importance of trained radio amateurs within the response ecosystem.

The 2024 Boston Marathon is in the history books - Monday, April 15, 2024 was the Patriots' Day state holiday in the Commonwealth of Massachusetts and with that holiday came the 128th running of the Boston Marathon. More than 280 amateur radio operators volunteered across the Start, Course, Finish, and Transportation functions, and various operations centers -- including the Massachusetts Emergency Management Agency (MEMA) State EOC Unified Command Center (UCC) and the Boston Athletic Association (BAA) Race

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Operations Center (ROC) -- in Boston, performing communications duties that included logistics support as a primary function and backup support for medical and other public safety requests for the race as needed. Amateur Radio operators were supporting the BAA, Red Cross and other agencies during the event. This is one of the largest public service events Amateur Radio supports in the US. - *Rob Macedo, KD1CY, ARRL District Emergency Coordinator, Eastern Massachusetts Section*

Storms and Tornadoes: Amateur Radio Ready

Strong storms and at least 60 tornadoes wreaked havoc in the central US for nearly 2 weeks last month. On May 1, 2024, President Joe Biden declared a major disaster in Oklahoma. ARRL Iowa Section Manager Lelia Garner, WA0UIG, reported that in the state, they have moved from response to recovery. Currently, nine counties are under the Iowa State Individual Assistance Grant Program and the Disaster Case Advocacy Program.

Garner said "Amateur radio has served our local agencies well. We recently networked at a central Iowa hamfest and are building our emergency communications capacity primarily through ARES®." "The opportunity to share our experience and knowledge gained in the field has been critical to supporting ARES in Iowa," said Garner.

Garner added that awareness is the best tool. She stressed that amateur operators and ARES members work to help the National Weather Service and other served agencies in order to make their work and the community safer.

ARRL Emergency Management Director Josh Johnston, KE5MHV, agrees that everyone should stay vigilant in their awareness and preparations, even during periods of less activity. "Make sure you are prepared at home and that your family has a severe weather plan. This is extremely important if you plan to be mobile or away from your home during a severe weather event. Your safety is the most important thing if you plan to be active during severe weather. Every ham who is interested in severe weather should take the [SKYWARN](#) storm



spotting class offered by the National Weather Service," said Johnston.

He added that some of the most important aspects of preparation are communication and building relationships. These activities, including drills and exercises, need to be done during blue-sky days to ensure you will be ready during days with severe weather. - *The ARRL Letter*

ARES Supports New Hampshire Red Cross (ARC) Eclipse Standby Deployment

This was a group effort, with input from ARRL Section staff, multiple ECs and members, American Red Cross (ARC), Department of Emergency Services, State Parks and Lands, and the state's interoperability coordinator. The mission we took on was in support of the Red Cross.

The Mission

Red Cross was asked by the state and towns to stage responders and vehicles in Lancaster to deal with any mass casualty or sheltering needs in the region. The premise behind our role in this operation was that cell service would be clogged with calls, making it difficult for ARC teams to communicate with their office and each other. The clogged network part turned out to be real from about mid-day Monday until late in the evening. There is good cell coverage in the region, but limited call capacity. ARES' role was to relay deployment and logistics messages between the ARC office in Concord, and the response teams staged in Lancaster if cell service wasn't available.

Planning and Prep

The planning team included Section Emergency Coordinator Al Shuman, K1AKS; Section Manager Pete Stohrer, W1FEA, Emergency Coordinator Erik Rider, KC1FZB, myself, and others. Solid information was hard to come by in the planning stage, partially because everyone involved faced so many variables, such as how many day-trip visitors would make it to the north country, the weather, crowd behavior, local capabilities, etc. Our plans needed to be flexible. I made two recon trips in the weeks prior to the event to help firm things up. The personal contacts and information that resulted were

invaluable. We met and talked with staff from Red Cross, HSEM, State Parks, and DOT at various times as well as several operators in the Coos County ham community. All were supportive of our planning and needs. Special mention goes to the DOT Region 1 personnel in Coos County who went above and beyond not only for us, but for all the emergency responders.

Former Coos Emergency Coordinator Bob Martin, KB1IZU, and I met and talked during my first trip north. He provided valuable local insights, and made sure both of his repeaters were up and running well throughout the setup and operational period. Special thanks also to John Marcel, K1FDD, of the NH Division of Forests and Lands, Bob Erskine from the Division of Emergency Services, John Stevens, and State Interoperability Coordinator, for bringing ARES into this event, and ARC Regional Disaster Officer John Montes.

One of the biggest problems was the logistics of putting ARES teams into an area with no available overnight accommodations. That was solved by operating from three self-contained RVs sited at NH DOT facilities. This issue also forced us to limit the number of participants, due to the fact that both RVs and space to park them were limited. We considered recruiting local non-ARES hams to assist, but decided that might introduce too many unknowns into a potentially high-profile operation.

Because the ARC office in Concord was the operations center for Red Cross response, we installed a new HF station there with an IC-718, LDG tuner, and a 53' end-fed antenna in the attic. We staged ARES teams in Lancaster at the District 1 DOT and the Pittsburg North DOT garage, a few miles north of town. The Lancaster team included two hams to respond along with ARC assets, and one to be the link with Concord and Pittsburg. The Pittsburg team of two was there to handle communications from the north if a deployment actually occurred.

We built plenty of redundancy into our plans, because our knowledge of coverage in northern Coos County was limited. In addition, it was a rare opportunity to compare different long-haul methods and modes throughout a single operation.

There were two communication paths to provide for: One was long-range, between the two fixed stations in Coos, and Concord ARC. The other was local communication between the two fixed Coos County sites and the deployment team. Local communications were facilitated by the Clarkesville and Mt. Agassiz 2-meter W1COS repeaters, which have overlapping coverage along Rte. 3 between Pittsburg and Lancaster. We also had a self-contained quick-deploy cross-band repeater just in case a repeater went down, and plans to shift to simplex operation if needed.

The link between Pittsburg, Lancaster, and Concord was the larger challenge. I opted for a redundant multi-path approach, using HF voice, HF NBEMS, Winlink, and FM voice via the Mt. Washington repeater. At the last minute, we decided to add DMR to the mix as an experiment, which required a bit of running around since two of our three fixed stations lacked DMR capability.

Operations

During the operational period of 7 AM to 7 PM, we conducted periodic tests on every path so we would know which one to use if ARC was deployed from Lancaster. HF voice was the least reliable, likely due to weak propagation and compromise antennas. It further deteriorated from the beginning of the eclipse until we shut down around 6:30. All stations were on shorter end-fed antennas, and our signals varied. I could hear whispers from ARC, but W1FEA with his full-sized antennas was quite usable, if not booming. Other home-based stations were also quite strong at times, but no one was hearing our field stations well enough for relays. It might have worked better if we had more home stations participating as relays, but the response to our pre-deployment request was light.

HF NBEMS worked almost 100% of the time, although late afternoon on Monday we had to slow down to Thor11 on 40 meters. Eighty meters was good in the early morning, but 40 meters was better through the daytime and early evening. Our seldom-used original 40-meter NBEMS frequency turned out to be the new home of FT8 and similar modes, so I moved us to 7.060 MHz, which worked well until late afternoon Monday, when someone attempted to jam us by sending random CW

on top of the signals in the waterfall. He'd start a second or so after the transmission started, and stop just after we stopped. Later, he was transmitting some other digital mode and slowly tuning back and forth across the waterfall on top of our signal. We ignored him and dealt with the small errors it caused, but it's a future consideration.

The Mt. Washington 2-meter FM repeater was the clearest and most reliable voice path. [*At 6,288 feet, the mountain is New England's highest. - Ed.*] The ARC's base radio can't reach it, so Pete, W1FEA, was our relay from his home. Al Bradford, AE1H, was our backup relay on both Mt. Washington and HF SSB. We might consider experimenting with a higher-gain antenna for ARC's station. Had the repeater not worked out, HF NBEMS would have been our best choice. Earlier plans to have Mount Washington ARES members relay to a Concord repeater turned out not to work well. However, we did have a phone in the radio room, so messages could have been relayed that way as well.

Winlink didn't end up playing a direct role in the event, although both Steve Davidson, NA1T, in Lancaster and Dave Colter, WA1ZCN, in Pittsburg were easily able to connect to gateway stations. What we lacked was a known monitored email address at ARC Concord, but that could have been solved quickly if the need arose.

In addition, we had Twin State Radio Club's commercial VHF interoperability radio set to VCALL-10 in Pittsburg to allow for communications with Pittsburg Fire and others, but fortunately it wasn't needed. Had an actual deployment occurred, it would have allowed more rapid coordination with other responders.

The DMR experiment did work, but with a few problems. There were frequent network dropouts (attributed to internet issues), and some transmissions never made it through at all and had to be repeated. That caused a bit of confusion. DMR audio can be difficult to understand under normal conditions, and the network-related packet loss and dropouts made it even more difficult. If we'd had to send a formal message over DMR, it would probably have required multiple tries to get it accurate.

The Reality

The number of visitors coming north directly affected the timing of our arrival on site. We anticipated the possibility of heavy traffic on Sunday, but that didn't happen. We set up the Pittsburg station early Sunday morning after an evening arrival on Saturday. The serious traffic started very early Monday morning. In the end, Pittsburg, which was considered the best viewing place, never really filled up with visitors. The crowd was large-ish, but stayed mostly in the town center. A few hardy souls ventured north toward the border. We later figured out that many, many thousands more people were on the way up, but made too late a start to make it in time because of the "funnel effect" of the road system. There is really only one good road from Lancaster into northern Coos County - Route 3 - but there are many roads leading north to Lancaster. Those roads were jammed all the way back to Concord, and I suspect most folks ended up watching the eclipse from their cars on the highways. Post-eclipse traffic was even worse, because nearly everyone seemed to head south at the same time. The highways in New Hampshire and Vermont didn't clear out until well into the wee hours of Tuesday morning. We left closer to 6:30, and were finally able to get home shortly after midnight.

Random Thoughts and Takeaways

This plan worked, as far as it went. It might not have survived an actual deployment that extended into Tuesday.

Redundancy is good insurance, but takes a lot of equipment and extra work. Working from the small RV dinner table with four radios and a laptop would have been difficult if an actual deployment occurred.

Propane generators beat gasoline units for run time by many hours. Our dual-fuel 2 kw unit ran up to 24 hours on a 20 lb. tank. We brought four tanks. There was no place to refill in Pittsburg, just exchange, which is much more expensive. In a pinch we could have switched to gasoline.

We gambled on not having an actual deployment, but if it had happened, we'd have had to call in extra help. That wasn't planned for. You can never do too much thinking and planning. Just remember to edit it down to something readable and understandable. Building

relationships with key partners makes everything work better. -- *Dave Colter, WA1ZCN, Assistant SEC, [New Hampshire ARES](#); Interim EC - West Central New Hampshire ARES*

Letters: QRP is the Way to Go

I saw your note about checking into a Florida net with just 10 watts. I operate Army MARS and check into the local 8 AM net with 3 watts (with an Icom IC-703) every day. It covers Maryland, Virginia, Pennsylvania, and Delaware, and it works every time. I use a 180-foot random wire at about 35 feet.

Twice a month MARS has a liaison net with CFARS (Canadian version of MARS) on 14 and 6 MHz and for this net I use just 9 watts to a trap vertical on 14 MHz. I check into SHARES HF nets every week also. Come vacation time, I use just 3 watts to a rain gutter at a lodge in Virginia.

High power (QRO) is just not necessary. Put a good QRP rig in your ARES shelter; it runs on a battery you can hold in one hand. Keep it charged with a small solar panel and forget the Big Rig -- after a while you will give it away. -- *Scott McCann, W3MEO*

Keystone 6 -- National Mass Care

Exercise This Month

The 2024 National Mass Care Exercise, called Keystone 6, will be held in Shippensburg, Pennsylvania on May 20-23, 2024. Pre-exercise activities including logistics planning and movements, as well as training opportunities have been occurring since March.

The scenario will involve large-scale impacts cascading across the region and need for mass care services for more than 100,000 people. Pennsylvania will be standing up a Commonwealth-managed shelter and activating operational/planning mass care task forces for Feeding, Sheltering, Disability Integration, Reunification, Household Pets, Distribution of Emergency Supplies, and Housing. You can [read more about mass care in Pennsylvania](#).

In addition to the Shippensburg location, the American Red Cross Greater Pennsylvania Region (GPA) will also

be conducting simultaneous shelter exercises in each of their 10 Disaster Response Areas (DRA).

The Red Cross EMCOMM teams in both the Greater Pennsylvania Region (GPA) and the Southeast Region (SEPA) are extending an invitation to Amateur Radio Emergency Service® (ARES®) partners and hams throughout Pennsylvania to participate. This would involve providing simulated emergency communications between the Red Cross's 10 DRA shelters in the GPA Region and the shelter in the SEPA Region during the PEMA Sheltering exercise in Shippensburg.

There have been three pre-exercises leading up to next week's exercise. A March 16, 2024 test was designed to help players get acquainted with the new Red Cross EMCOMM Stations (RCES) throughout Pennsylvania. The exercise was organized by the Red Cross EMCOMM Team, which invited all Pennsylvania hams to check in with Pennsylvania Red Cross EMCOMM Stations using various VHF repeaters. Hams were requested to check in with their call sign, name, county, and noting whether or not they were an ARES or Red Cross volunteer. ARES ECs were invited to visit the RCES before and during the exercise.

On April 6, an exercise was conducted during the ARRL Eastern Pennsylvania and Western Pennsylvania Sections' ARES Spring SET. On May 11, an exercise was conducted as a dry run for the actual Keystone 6 exercise.

The PEMA National Mass Care Exercise will serve as practice for sending Red Cross forms via Winlink between the PEMA Shelter in Shippensburg and the RCES locations, and pass some VHF voice traffic between the Red Cross shelters and Red Cross RCES locations. ARES and club stations will also be participating in the Winlink portion. -- *Blair ARES Alert!*, May 2024 issue, Drew McGhee KA3EJV, editor; from information provided by Ed Majewski, Jr. KC3NAF, and Joe Shupienis W3BC, ARRL WPA Section Manager

K1CE for a Final: NTS and ARES - A Symbiotic and Historic Relationship Needed Again

In the early 1950s, ARRL HQ staff made an effort to consolidate the Amateur Radio Emergency Corps (AREC, the forerunner of the modern ARES program that exists today), and the new National Traffic System (NTS) conceived in 1949 from the prior trunk lines relay system that had been employed which led to the creation of the American Radio Relay League in 1914. Under one ARRL-sponsored umbrella to be called the *Amateur Radio Public Service Corps* (ARPSC), the goals were to have the NTS operate daily, 365 days a year, handling routine radiogram traffic during normal times. The AREC would conduct occasional drills to develop operating acumen and maintain a high state of preparedness. Once a year, a simulated emergency test nationwide in which the AREC nets would become active at local levels to handle simulated emergency messages and the NTS would provide both local and long-distance record message handling in support. This required close cooperation between these two divisions of ARPSC. It's time to bring them back together. Let's just say it: NTS traffic handlers *were*, and now with the ARRL's major effort to renew and reinvigorate the system, *are* once again emerging as water carriers for emergency communication systems and programs like ARES. These systems and alliances allow for competent, accurate message handling across the country when needed. Professionalism and quality management are the hallmarks of the new system. The NTS 2.0 Committee is working hard to raise the standard of operation of NTS traffic handlers and the system that has enjoyed a long, symbiotic relationship with ARES (formerly AREC). I got my start in organized amateur radio public service in 1977 with the Boston area repeater net - the *Heavy Hitters Traffic Net* - and the *Eastern Mass Rhode Island Phone Net*. I'm looking forward to reengaging with the NTS; not only for the public service opportunity it offers, but also for the pure fun of it, as enjoyed over 40 years ago! -- K1CE

Field Day

Dovetailing with the above opinion, this coming Field Day, consider Field Day Rule 7.3.6. *Message Handling: 10 points for each formal message originated, relayed or received and delivered during the Field Day period, up to a maximum of 100 points (10 messages). Copies of each message must be included with the Field Day report. The message to the ARRL SM or SEC under*

Rule 7.3.5. does not count towards the total of 10 for this bonus. Messages claimed under this bonus must be in either standard NTS or ICS-213 format (or have the equivalent content). All messages claimed for bonus points must leave or enter the Field Day operation via amateur radio RF. Available to all Classes.

Why not make the above a priority for your Field Day operation next month! - Rick Palm, K1CE, Editor

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- [ARES Field Resources Manual \[PDF\]](#)
- [ARES Standardized Training Plan Task Book \[Fillable PDF\]](#)
- [ARES Standardized Training Plan Task Book \[Word\]](#)
- [ARES Plan](#)
- [ARES Group Registration](#)
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The Amateur Radio Emergency Service® (ARES) consists of licensed amateurs who have voluntarily registered their qualifications and equipment, with their local ARES leadership, for communications duty in the public service when disaster strikes. Every licensed amateur, regardless of membership in ARRL or any other local or national organization is eligible to apply for membership in ARES. Training may be required or desired to participate fully in ARES. Please inquire at the local level for specific information. Because ARES is an amateur radio program, only licensed radio amateurs are eligible for membership. The possession of emergency-powered equipment is desirable, but is not a requirement for membership.

How to Get Involved in ARES: Fill out the [ARES Registration form](#) and submit it to your local Emergency Coordinator.

Support ARES: Join ARRL

ARES is a program of [ARRL The National Association for Amateur Radio®](#). No other organization works harder than ARRL to promote and protect amateur radio! ARRL members enjoy many benefits and services including digital magazines, e-newsletters, online learning (learn.arrl.org), and technical support. Membership also supports programs for radio clubs, on-air contests, Logbook of The World®, ARRL Field Day, and the all-volunteer ARRL Field Organization.

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