

Boone County Amateur Radio Emergency Services (BCARES)

Net Control Station and Standard Operating Procedures for the BCARES Emergency Net

NOTE: If severe weather is imminent, regardless of National Weather Service notices, an Emergency Net can be activated. Any ham can activate a net but when a Boone County Amateur Radio Emergency Services member checks in who has training as a net control operator, control of the net should pass to this member.

BCARES Net Frequencies

VHF repeater:	146.610 (-) PL 127.3 (K4CHS) TEMPORARILY OFF-LINE
PRIMARY VHF repeater:	146.760 (-) PL 127.3 (KØSI)
Primary UHF Repeater:	444.175 (+) PL 107.3 (KDØSAF) (Airport)
Secondary UHF repeater:	444.425 (+) PL 127.3 (KØSI) Col-SMI
Simplex:	146.505 (HVTAC6 on the Missouri Interop Frequency list)
	146.520 (the national calling frequency)

When unable to use the primary repeater, the Net Control operator should start/move the net to the secondary repeater. The UHF repeaters are available and cover well, just not everyone has UHF capability at this time. So, we will use the UHF repeater to fill gaps such as the Missouri River bottoms and Katy Trail south of Ashland. When both VHF repeaters are unavailable, establish a net on HVTAC 6. In any event, monitor or assign the duty to monitor, the national calling frequency and the **reverse** repeater frequencies to notify anyone attempting to call or check in there of the net's current location.

Severe Weather Warning Procedures

NWS severe weather conditions: we may not call nets for Watches, but should call nets for Warnings.

Watch: Conditions are favorable in a region for severe thunderstorms or tornadoes to develop or to move into your area. Watches are generally issued for a 4-8-hour period. Be ready for storms in the near future. Take action to protect property before the storms arrive in your area.

Warning: There is either an imminent threat or an actual occurrence of large hail, damaging winds or a tornado. When a warning is issued, respond immediately to protect life and property. Warnings are generally issued for 30-60 minutes.

When the NWS issues a Severe Weather **Warning** for our area, a qualified operator should establish a Net Control Station (NCS) assume the role of Net Control (NC), and start the Boone County Emergency Net using the procedure as provided below:

Start the net

Open the repeater or the next BCARES Net Frequency (see above) if unable to use the current frequency. Announce the reason for the net call-up (see below):

Announce: **This is <your callsign> calling the Boone County Emergency Net for the current Severe Weather WARNING issued by the National Weather Service. This is a directed net.** (Indicate if this net is called in response to a request from JCC/EOC or NWS).

Announce the complete, EXACT text of the **severe weather warning**, as issued by the National Weather Service.

<http://forecast.weather.gov/MapClick.php?lat=38.95&lon=-92.32#.U012gBuA01g>

As the NWS releases new notices, announce these or assign the task to another operator, e.g. the liaison at JCC.

Announce: **This is activation of the Boone County Emergency Net. This is <your callsign>, Net Control. This is a directed net.**

Invite Check-ins (see below):

Request emergency and priority traffic check-ins.

Announce: **Stations with emergency or priority traffic, please call now.**

Request weather spotter check-ins.

Announce: **Qualified weather spotters, please check in now with your callsign, name, and location, and status for deployment (APRS equipped?). This is <your callsign>.**

Acknowledge each station on check-in.

Periodically ask for new weather spotter check-ins.

Request general check-ins.

Announce: **Any stations wishing to join the BCARES Emergency Net please check in now with your callsign, name, and location. This is <your callsign>.**

Acknowledge each station on check-in.

Periodically ask for new general check-ins.

Establish backup and liaison operators, as maybe required:

Announce: **This net will need**

-- a **Alternate Net Control Station (ANCS)**,

-- a **liaison at Joint Communications**,

-- a **liaison to the Skywarn net 145.390 (-) PL 127.3 (Linn)**

-- a **liaison to the Intertie link. 444.425 (+) PL 77.0 (if operating)**

If you can perform one of these roles, please call Net Control.

Periodically repeat this request as needed until all roles are filled.

Review Basic Net Instructions to Operators.

As time permits,

Announce: As with all directed nets, direct all traffic through Net Control. Stations with emergency traffic should call Net Control with PRIORITY and announcing their callsign phonetically only once. Net Control will recognize stations one by one using their callsign suffix. When recognized by Net Control, state your traffic clearly and briefly.

In the event that this repeater goes down, the net will move to [the KØSI repeater on 146.760 MHz (operating with negative offset and PL 127.3)]. If all can work UHF we will move to the Airport UHF 444.175 repeater. Failing that, the net will move to HVTac6F which is 146.505 MHz simplex.

Please report observations that meet the National Weather Service criteria for Reportable Conditions using the format Time, Location, Condition, and Source. These reportable conditions are taken from the Skywarn Spotters Basic Field Guide: for reference only [https://www.weather.gov/media/owlie/SGJune6-11\(1\).pdf](https://www.weather.gov/media/owlie/SGJune6-11(1).pdf)

Severe Weather Reporting Criteria

Many types of weather information are needed from storm spotters; however, some types of information are much more important than others. Strict adherence to the reporting criteria allows vital information to be communicated as soon as possible. Also, some of the reporting criteria should receive higher priority communication than others. You should report the following weather events.

Urgent Priority

**Tornado
Funnel cloud
Rotating wall cloud
Flash flooding**

High Priority

**Hail 3/4-inch diameter or larger
Wind speed greater than 58 mph
Persistent non-rotating wall cloud
Rainfall 1 inch or more per hour**

Lower Priority

**Hail 1/2-inch diameter or larger
Wind speed greater than 40 mph
Cloud features suggesting storm organization
Other locally-defined criteria**

During this net, do not report weather conditions directly to the NWS but route them through the net.

Please report any Non-Weather Events of the following for JCC/EOC interest:

- any life-threatening emergency;**
- automobile accidents,**
- fires, or explosions, and**
- any situation that, after careful consideration, appears capable of becoming life-threatening, such as**
 - stranded motorists,**
 - debris covering roadways,**
 - fallen trees or power poles.**

Do NOT report events outside these criteria unless at the specific request of Net Control.

Mobile operators should notify Net Control every 15 minutes and when their position is changing.

After checking in, please do not leave the frequency without notifying Net Control.

Request reports

Once the initial stations have checked in and instructions have been given, NC will ask for reports from stations closest to the incoming weather. When severe weather arrives, routine status reports and logging will be suspended to process the traffic quickly and accurately to JCC and the NWS. NCS (and ANCS) will record each station's report of significant weather incidents and repeat back the information to verify accuracy. The time of report will be logged.

Utilization of an internet based QLog will be developed in the future.

Net Maintenance as time permits:

Call for **new** check-ins and run the list of all stations periodically.

Track the position of all mobile operators, and request their status every 20 minutes. Use APRS where possible.

Query liaison stations, e.g. JCC/EOC for outstanding requests.

Announce new NWS notices as they appear and periodically summarize the list of active watches or warnings.

Log events and emergency traffic.

Repeat the basic net instructions and safety procedures as appropriate.

Safety Procedures for Operators

When time permits,

Announce: **Spotter safety is of extreme importance. BCARES neither promotes nor discourages mobile severe weather spotting efforts. However, all mobile severe weather spotters should:**

- **Obey all traffic laws.**
- **Take a position safely off the road.**
- **Be aware of your surroundings -- overhead power lines or trees could come down on your vehicle, storms could approach from your back.**
- **Use your automobile flashers (hazard lights).**
- **Identify multiple escape routes if possible.**
- **Ensure you can get to an available position of safety.**
- **Seek shelter immediately if imminent danger threatens, and notify Net Control, if possible, of your emergency situation.**

Periodically repeat the Basic Net Instructions and Safety Procedures as new operators check-in and other circumstances require.

Net Closure Procedures

When severe weather no longer threatens our area, NC shall ask spotters to secure their areas by checking for damage and other results of the severe weather that may need to be reported.

When an area is secure, release all spotters and ask them to check out by callsign. If mobile, ask the spotter to continue to check in with location reports every 15 minutes until at their destination. Review the log to assure all spotters are accounted for. If a station is unaccounted for and does not respond to radio calls, ask the ANCS operator to call the operator's home or place of work to determine his safety and whereabouts. Do NOT close the net until all stations are accounted for.

When all stations have been checked out of the net,

Announce: **This is <your callsign> closing the Boone County Emergency Net. Thank you all for your participation and service to our community. This net is secured. The frequency is now returned to normal amateur use. This is <your callsign> clear.**

The liaison operator at JCC should deliver a report to the JCC supervisor before leaving that includes:

- the number of operators that participated,
- the number of mobile stations and their locations covered
- the starting and ending times of the warning and emergency nets
- any significant items that occurred such as first reports or spotter confirmations of weather conditions.

Copies of all logs and reports should go to the BCARES Emergency Coordinator.

General Rules of Operation

- Net Control has ABSOLUTE CONTROL of the frequency until the net is closed.
- All communications must pass through NC for the duration of the net.
- If anyone wishes to speak with another station involved in the net, they will need to obtain permission to "go direct." Make sure it is important and relevant to the net activity. Consider sending the pair to an alternate frequency.
- During any net, but of particular importance in Emergency nets, NC may give check-in instructions, requesting information he/she wants as part of any check-in to the net.
- NC has the authority to announce a "Resource" net and assign operators to it. In this event, NC should designate a Resource NC then give the Resource NC specific instructions about the numbers of operators needed at each location where the JC-EOC wants an amateur station operating. Define the length of time expected for the operation, and, if longer than four hours, appoint an operator to develop shift rosters for the Resource NC to ensure relief operators are available for shift changes.
- Weather nets do not generally need tactical callsigns. Operators will have no trouble managing callsign suffixes. For longer term operations involving operators serving as communications links at several locations, use tactical callsigns that identify the location or purpose of the station.

BCARES Net Control Operators

Although BCARES welcomes everyone to participate in our severe weather nets, specifically identified operators should function as Net Control operators when available. BCARES strives to prepare NC operators with a wide range of communications knowledge and ability through ongoing training sessions and training nets.

BCARES Emergency Coordinator

- Bill McFarland, NØAXZ

BCARES Assistant Emergency Net Coordinator:

- Corey Messenbrink, KCØYNS

BCARES Assistant Emergency Net Coordinator:

- Tim Spurgeon WØTES

BCARES Net Control Operators:

- Corey Messenbrink, KCØYNS
- Bill McFarland, NØAXZ
- Don Moore, KMØR

BCARES Operators with ECC/Joint Communications Access:

- Bill McFarland NØAXZ
- Jon Cole NØOFJ
- Tim Spurgeon, WØTES
- Don Moore KMØR

BCARES Operators with UM Hospital Access: (TEMPORARILY OFF-LINE)

- Bill McFarland NØAXZ
- Phil Gresham KD5IPH

BCARES Operators with Women's and Children's Hospital Access:

- Bill McFarland NØAXZ
- Dave Witten KDØEAG
- Peter Higgins WH6EB

BCARES Operators with Boone Regional Hospital radio access:

- Hank Taylor KDØBVQ
- Ernest Shaw KCØEZE

Anyone interested in preparing for and sharing these duties should contact the BCARES Emergency Coordinator.

Record-keeping

Event Log (ICS-309)

- Net Call-up time
- Net Control Station and NCS transfers
- Station check-ins (callsign, location) and check-outs
- Liaison assignments and transfers
- Mobile station progress every 15 minutes

- Net Close time

We will be implementing an internet based Qlog system soon to facilitate NCS interaction and trade-offs.

Reports and Traffic (TLCS format, ARRL radiogram, or ICS213)

- severe weather conditions (TLCS format)
- reports of law enforcement and public safety issues (TLCS format)
- requests from NWS or another EOC
- formal emergency traffic (ARRL radiogram or ICS213)

Glossary of terms

Net Control Station -- the location and equipment from which net control operators function as net control.

Net Control -- the role an operator assumes when running a directed net from the net control station. In most cases, the Net Control operator's callsign designates Net Control. In some cases, the Net Control Station callsign designates Net Control, as when operating from KØSI (CMRA station) or from WXØBC (Joint Communications station).

Liaison -- the role a designated operator fills to monitor and pass appropriate traffic and information between the Emergency Net and related entities, e.g., Joint Communications, the NWS, NTS, MESN and other local and adjacent county nets, etc.

Intertie System -- the network of 440 MHz repeaters connecting outlying areas of Missouri with the National Weather Service.

Joint Communications Center JCC – the Boone County/Columbia 911 dispatch center

Emergency Communications Center (ECC-Boone County)

TLCS report format --

- Time -- when the observation was made
- Location -- using distance and direction from intersections, well-established landmarks, map grid-square, or GPS coordinates
- Condition -- one or more reportable item
- Source -- the spotter who made the observation