

Severe Weather Operations Spotter Protocol Guide 2010

Johnson County Emergency
Communications Service, Inc.



K0ECS

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1.1) Introduction

As President of the Johnson County Emergency Communications Service, Inc. (ECS) I would like to welcome you as a new or a returning member to our organization for the 2010 weather season.

We always hope for a quiet severe weather season. But as ECS members we train to prepare for an active weather season. I want to thank you for the time and dedication you give by volunteering as a weather spotter for the ECS. What you train for some day could give the few minutes warning for people in the path of the storm. The information you give will allow them the time to take cover and very possible save lives.

73

Steve Rainey, WD0DBP

This document was approved by the ECS Board of Directors on 2/11/08.

ECS is the appointed R.A.C.E.S. organization for Johnson County Emergency Management and Homeland Security. We are a volunteer organization that provides a service to local government. As a spotter during severe weather events, ECS verifies and reports "ground truth" information for Johnson County Emergency Management and the National Weather Service (NWS).

To be a spotter a member must be 18 years old, a valid licensed amateur radio operator, and certified by ECS as a level 2 operator. Each member must recertify every two years by attending the NWS Annual Spotter Training and the Annual ECS Protocols Training.

Members are encouraged to check into the Monday night net at 7 PM on 145.47 minus offset (tone encoded 151.4 Hz) or check the ECS website for announcements for events or training opportunities.

2.1) SEVERE WEATHER OPERATIONS – Notification Procedures

- 2.1.1) When the probability of severe weather is known, Johnson County ECS personnel should review severe weather operations procedures and make necessary preparations for activation. Commercial broadcast, National Weather Service resources, and ECS frequencies should be monitored for additional information. Telephone call outs are a last resort.
- 2.1.2) Johnson County Emergency Management and Homeland Security (EM) will attempt to notify net controllers whenever possible approximately 1½ hours before severe weather is expected to enter the county.
- 2.1.3) All certified spotters should already be monitoring the frequency when severe weather nets are activated. All safety checks of equipment and vehicle should have been completed before checking into the net. Have your valid ECS ID card and spotter manual with you when deployed.

2.2) SEVERE WEATHER OPERATIONS - Amateur Net Procedures

- 2.2.1) EM Duty Officer will activate net Controllers. The Net Controller will ask **certified** members for their locations and availability for assignment to a spotter location. Only ECS certified stations ready and available should respond. “Net Control” will identify himself as such and use the K0ECS call sign at the end of transmissions.
- 2.2.2) In anticipation of a severe weather net activation, Net Control (or Alternate Net Control Station [ANCS]) may choose to take a standby list of available certified ECS members. The standby list is NOT a net activation. Do not respond to the standby list unless you are available for an immediate assignment.
- 2.2.3) Assignment will be based on priorities given by the EM Duty Officer and ECS member’s proximity to required locations. Johnson County is divided into four quadrants A - D. Spotter locations are numbered accordingly, i.e. A1, A5, B1, C6, D2. Members are encouraged to become familiar with all spotter locations.
- 2.2.4) Once assigned a spotter location, each ECS member should advise Net Control when he or she is enroute to and has arrived at an assigned location.

2.2.5) All ECS members assigned to a spotter location should remain on assigned frequency at all times.

2.2.6) Once activated, ECS nets are directed nets—no transmission should occur without consent of the Net Controller. Wait until call sign or spotter location is acknowledged before beginning transmission.

2.2.7) **DO NOT ADVISE NET CONTROL OF INFORMATION RECEIVED FROM ANY OTHER SOURCE. REPORT ONLY WHAT YOU SEE.**

2.2.8) Do not leave assigned spotter location without the approval of Net Control **unless** for reasons of personal safety. Advise Net Control as soon as possible of any unauthorized move.

2.2.9) Should your radio fail, find the nearest telephone and contact Net Controller at 913-715-1008. This is a direct line to the ECS Net Controllers desk at the Johnson County EOC. This phone is not answered unless an ECS Net Controller is present.

2.2.10) Do not secure from assigned spotter location until authorized by Net Control. When so notified, advise Net Controller when departing spotter location and again upon arrival at your destination.

2.3 SEVERE WEATHER OPERATIONS. REPORTING PROCEDURES - RADIO PROTOCOLS

2.3.1) In general, if the weather phenomenon does not appear in the “Emergency” or “Urgent” sections – do not report it. Refer to appendix A for reporting criteria.

2.3.2) Requests for conditions in specific areas come from the National Weather Service or the EM Duty Officer.

2.3.3) If the condition is shown in the “Emergency” section – your initial call should be, “Net Control, this is Alpha 1 (spotter location), Emergency”. When the Net Control acknowledges, transmit the specific information ending with your call sign.

2.3.4) If the conditions is shown in the “Urgent” section – your initial call should be, “Net Control, this is Alpha 1, (spotter location), Urgent”. When the Net Control acknowledges, transmit the specific information ending with your call sign.

- 2.3.5) Non-severe weather emergency traffic (dealing with the immediate safety of life or property) will be accepted by Net Control.
- 2.3.6) Keep all transmissions short and to the point. Know what you are going to say BEFORE you begin to transmit. Keep the frequency clear of ALL unnecessary transmissions.
- 2.3.7) Net Control will remain on the air until all operations have terminated and operators have reached their destination.
- 2.3.8) In the event communications is lost with the Net Controller at the Johnson County Emergency Operations Center (EOC), the ANCS will assume control of the net. If an ANCS is not available the Field Safety Officer (FSO) will assume control of the net
- 2.3.9) In the unlikely event that the 145.47 (negative offset, PL tone 151.4 Hz) main repeater and the backup 145.47 repeater fail, listen for a call to switch to the backup frequency 145.21 (negative offset..no PL tone)

2.4) SEVERE WEATHER OPERATIONS-SAFETY CONSIDERATIONS

- 2.4.1) Use caution when traveling to spotter locations. You are NOT authorized to exceed speed limits or engage in any careless or reckless driving. Be alert to high water or other roadway hazards and report them to the Net Controller.
- 2.4.2) Upon arrival at the spotter location, ensure you have at least two exits from the location.
- 2.4.3) Advise Net Control, "I have a visitor at this location." Attempt to obtain any personal or vehicle descriptions associated with the visitor and advise Net Control when the visitor has left. Be prepared to leave the location if your safety is threatened.
- 2.4.4) You are permitted to refuse any instructions from the Net Control that will place you in danger. Advise Net Control of the situation as soon as possible.

APPENDIX A:

SEVERE WEATHER REPORTING CRITERIA

EMERGENCY STATUS

A. Tornado: A violently rotating column of air in contact with the ground pendant from a thunderstorm base.

Diameter of base _____

Direction of travel _____

Speed of travel _____

B. Funnel Cloud: A rotating column of condensed air not in contact with the ground.

C. Wall Cloud: Isolated cloud lowering attached to the rain-free base.

Rotation: YES _____ NO _____

URGENT STATUS

HAIL SIZE 1 inch or larger _____

WIND SPEED (58 mph or greater) _____

RAINFALL AMOUNT (1" or >/hr) _____

DAMAGE REPORTS:

APPENDIX B:

ECS NET FREQUENCIES

Primary Frequency: 145.47 MHz, negative offset (-600 KHz), PL tone-151.4

Secondary Frequency: 145.21 MHz, negative offset (-600 KHz), PL tone-none.

The 145.47 MHz repeater is an open amateur repeater except during net activation.

Autopatch is available to member stations except during storm Watches and Warnings, when the auto-patch and squelch tail are disabled.

During a weather net, if you have nothing to report, keep the frequency clear until the storm passes and net activation is secured.

ECS has a Secondary Usage agreement with the trustees of the SRACT repeater on 145.21 MHz. This repeater uses a negative (-600 KHz) offset and does not require any sub-audible tones. It is located atop a tower behind the Fire Station in Shawnee. In the extremely unlikely event that the 145.47 repeater fails during a severe weather net activation, the 145.21 repeater will be used as a backup frequency.

APPENDIX C:

EQUIPMENT REQUIREMENTS

The basic mobile VHF requirement is 25 watts and an externally mounted quarter wave antenna.

Even though our JoCoECS 2 meter repeater provides excellent coverage, there are strongly advised minimum operating requirements for mobile stations. A mobile operator should use 25 watts, minimum to an externally mounted quarter wave antenna, minimum. The "best bang for the buck" improvement over the minimums is to change the external antenna to a 5/8 wave. This combination will get into the VHF repeater in almost all locations in the county.

If the operator has only a 5 watt HT (handie-talkie) it should be used with not-less-than an externally mounted 5/8 wave antenna. An externally mounted antenna provides a HUGE improvement over a rubber duckie antenna inside the vehicle. But, this combination will only get into the repeater on hilltops in a lot of locations in the county. An excellent addition to the HT/5/8 wave antenna is a 25 to 35 watt VHF amplifier for better mobile coverage.

APPENDIX D:

SPOTTER WEATHER RESOURCES-SITUATIONAL AWARENESS

www.K0ECS.com - Our own web site. Valuable information on ECS, NWS, SPC, along with many other useful links.

www.weather.gov/kc - National Weather Service, Pleasant Hill (Kansas City) hazardous weather outlooks, watches, warnings, statements and local forecasts.

www.spc.noaa.gov – National Weather Service, Storm Prediction Center- Convective Outlooks, Meso Discussions, Convective watches.

groups.yahoo.com/group/Johnson_County_ECS -ECS members' Yahoo group site. All ECS members are encouraged to join this Yahoo group.

www.jocoem.org – Johnson County Kansas Emergency Management and Homeland Security.

**APPENDIX E:
SPOTTERS MANUAL (Guide to make your own manual)**

All ECS members should print out copies of the following:
Keep this with you when deployed.

- 1) Map and written description of Johnson County spotter locations. (source-ECS web site)
- 2) Information sheet for each spotter location, (description/photos, and map) (source- ECS Web site)
- 3) Current copy Spotter Protocol guide. (source-ECS training class or ECS web site)
- 4) Chart of Hail Size. (source-ECS Web site)

Optional items for Spotters manual

- 1) Net Control Schedule. (source-ECS Web site)
- 2) Any other item(s) of interest related to ECS or storm spotting. (Eg. NWS Spotters Field Guide etc....)

APPENDIX F:

ESTIMATING WIND SPEEDS (MPH)

- 25-31 Large branches in motion; whistling heard in telephone wires
32-38 Whole trees in motion; inconvenience felt walking against wind
39-54 Twigs break off trees; wind generally impedes progress
55-72 Damage to chimneys and TV antennas; pushes over shallow rooted trees
73-112 Peels surface off roofs; windows broken; light trailer houses pushed or overturned; moving automobiles pushes off roads
113-157 Roofs torn off houses; weak buildings and trailer houses destroyed; large trees snapped and uprooted
158 > Severe damage; cars lifted off ground

HAIL SIZES:

| | | | |
|---------|----------|-------------|-----------|
| PEA | .25 INCH | GOLFBALL | 1.75 INCH |
| PENNY | .75 | HEN EGG | 2.00 |
| NICKLE | .87 | TENNIS BALL | 2.50 |
| QUARTER | 1.00 | TEA CUP | 3.00 |
| WALNUT | 1.50 | SOFTBALL | 4.5 |