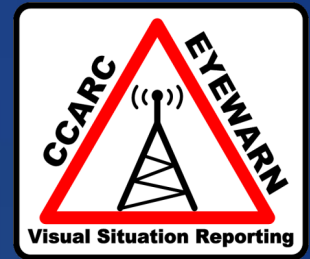


Sponsored by the Clark County Amateur Radio Club

EYEWARN NCS TRAINING

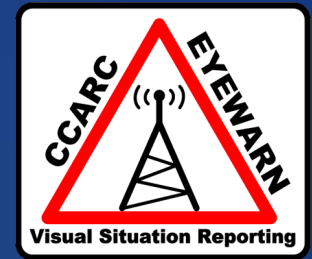
EYEWARN Mission



EYEWARN is a program sponsored by the Clark County Amateur Radio Club (CCARC) in conjunction with CRESA (Clark Regional Emergency Service Agency) and the CCARES (Clark County Amateur Radio Emergency Service).

It is a group of licensed radio amateur volunteers throughout Clark County providing simplified visual reporting in areas where damages or emergencies may exist. The EYEWARN Network provides the Emergency Management Team(s) expanded visibility and situational awareness of the affected area.

Purpose of this Training



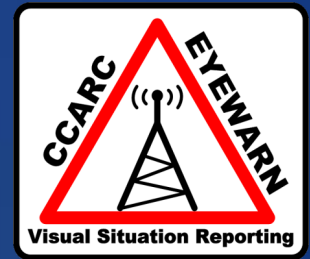
- The Purpose of this training is to provide direction to the NCS (Net Control Station) operators to foster:
 - Consistency across NCS operators
 - The use of language
 - Using the Script
 - Professionalism
 - Managing responding stations and the Net
 - Proficiency in NCS Operations for the EYEWARN Net
 - Logging Data
 - NCS shift Handoff
 - Responding to Emergencies
 - Responding to Frequency Interference.
 - Repeater, Simplex and Relay Operations.

EYEWARN: What we do and don't do.



- We gather information. We do not broadcast it.
- We respond to the request of the Agencies we are supporting and we will self activate in a disaster or emergency
- We are organized to serve Clark County.
- We are not an Emergency Traffic Net.
- We are not a message Traffic Net
- We are not a social net.

EYEWARN: What we do and don't do.



- EYEWARN is not ARES (Amateur Radio Emergency Service). We have a different mission.
- You do not have to be affiliated with ARES or the Club to support EYEWARN.

We are not part of the Clark County Emergency Worker Program.

EYEWARN: What we do



EYEWARN has a simpler process of training, qualification and a much reduced commitment for the program

We self activate OR are requested to activate. Once activated, we collect data regarding the situational awareness in Clark County.

NCS Language



- It is important to be consistent in our use of words when managing a net.
- Consistency between net controllers will help those responding to the NCS request for information.
- It helps in providing clear communications to the two parties that are communicating and others that are listening.
- The language and pro-words (procedural words) we use for an EYEWARN net, may not be the same you are familiar with using for other nets.

EYEWARN NCS Pro-Words



- **THIS IS** - Identifies who is calling. It should precede your call sign in every transmission during a DIRECTED NET operation.
- **OVER** - Use at the end of a transmission when additional communications is expected.
- **OUT** - Use to indicate that no further communication is expected, the conversation between the parties has ended.

EYEWARN NCS Pro-Words



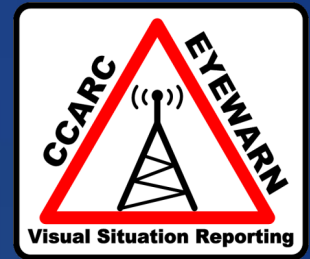
ROGER - Means that you understood the transmission of another station. This is not to be confused with answering a question in the affirmative.

AFFIRMATIVE - Means yes: a distinctive sound and clear meaning under noisy conditions.

NEGATIVE - Means no: a distinctive sound and clear meaning under noisy conditions

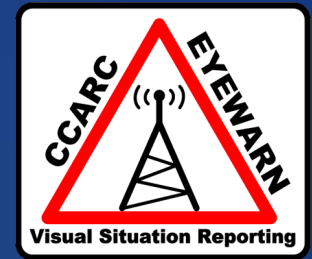
SAY AGAIN - Tell the other operator that you need a fill or repeat of information that was previously transmitted. For example, "Say again all before ____.... Or Say again all after ____.... Or Say again

EYEWARN NCS Pro-Words



- **CORRECTION** - You made an error and are transmitting again from the last correct word.
- **WAIT** - Cease transmission until "wait" station resumes communication or signals "out". "Waiting" station is asking the frequency stay clear for a brief period. They are expected to resume communication shortly or end the communication with an "OUT".
- **MIXED GROUPS** - Groups of letters and numbers that, taken together, represent a single group. The rule for transmitting mixed groups by voice: If the group starts with a letter, use "I SPELL" if a mixed group starts with a number use "FIGURES".

EYEWARN NCS Pro-Words



- **I SPELL** - Use the phonetic alphabet. Many words in the English language sound alike but have entirely different meanings. In order to make certain that the recipient of information understands what word we're using, when you encounter words you cannot pronounce, words that sound like other words, or uncommon words, phonetically spell them out.
- **INITIAL** - A single letter will be phonetically spelled preceded by the proword "INITIAL". The words "I" and "a" are considered words, not initials, should not be pronounced phonetically.
- **FIGURES** - Use to advise that you are about to transmit a group of numbers, or, a mixed group containing both numbers and letters but beginning with a number.

EYEWARN Scripts



- There is one script for a controlling an EYEWARN net.
 - Exercise/Event Script – This will be the script used for the weekly exercise nets and in an actual event. Noted in the script is language to guide the NCS Operator for use in a disaster or emergency.
 - NCS Operator will READ the Black Text of the script.

EYEWARN Scripts - Snippet



EYEWARN Net Control Station (NCS) Script

Any Net Control Station operator can self-activate the EYEWARN Net in the event of a natural or man-made disaster where situational information gathering is desired for emergency management to determine the allocation of responding resources. Large scale disasters should be obvious, but a brief reason for the net should be given.

If it is a training net indicate it as such below, choose a scenario and associated questions. In the event either or both repeaters are inoperative, choose one of the simplex frequencies.

*When conducting a **simplex** training net, make an announcement 5-10 mins - prior to net start on the -147.24 – repeater. “QST..Tonight's EYEWARN net at 7:00 will be a Simplex Check In on 146.43” [Or the alternate chosen simplex frequency]. “At this time - All stations – please QSY to 146.43.*

This is [call sign]”

EYEWARN Scripts



- Prior to the opening the Net, the NCS will note the scenario and questions for the Net Exercise OR Event.
- Avoid improvising the language in the scripts.
- The script is designed to take control of the communications media [repeater or simplex frequency] and run the Net
- Even if you are not the designated NCS or backup, you may need to take over as the backup or NCS if the other stations fail during the net. Be prepared.

NCS Professionalism



- Although we are Amateur by name per the FCC, the Agencies we support want to work with Professionals of their craft.
- We project professionalism in our:
 - Demeanor
 - The way we respond to others
 - Consistency
 - The recognition with respect.
 - The language that we use.
 - The manner in which we respond to unexpected situations.

Logging Data



ZIP CODE	CALL SIGN	NCS	TEL	Q1. Road closure?	Q2. Power Outage?	KEYWORD	LOCATION	DAMAGE/Remarks
98684	K7GJT	P	Y	NO	NO			
98662	KF7OJA	A	Y	NO	NO			
98661	NO7DE	Y	Y	YES	NO			
98607	WA7DL			NO	NO			
98629	N7TTK			NO	NO			
98642	KE7ZWP			NO	NO			DID NOT RESPOND TO CALL BACK
98662	N9YQ			NO	NO			
98662	W7JB			NO	NO			
98666	KG7EEE			YES	NO			
98671	KF7WKR			NO	NO			
98682	WA7JRP			NO	NO			
98682	W5CLE			NO	NO			
98682	KF7QCU			NO	NO			
98682	AF7CJ			NO	NO			
98683	KA7CTT			NO	NO			
98684	N7DEP			NO	NO			

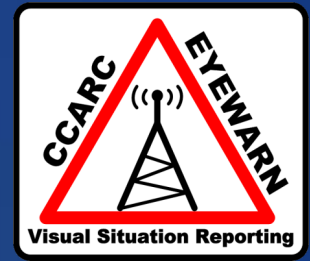
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NCS Shift Hand Off



- An actual event may last several hours or several days. Even if the Net is not open continuous over a period of time, Net Control will need to do a shift change to another Net Controller.
- During the initial check-ins, the alternate Net-Controller is identified by the NCS.
- The best time for a hand off is at the end of the shift.
- Equipment failure for the primary Net Controller may happen at any time.
- During an event, at the beginning of the Net, the NCS will establish the time/date of the next Net Operation and repeat that time /date at the close of the Net

Responding to Frequency Interference



- Often we hear people interfering with a net or one person on the net.
- Ignore it. The best way to get them to stop is not to identify that it exists.

NCS Response to an Emergency



- If a station identifies they have an Emergency, ask these Questions
- Do they have a phone, if yes, tell them to call 911.
If No, Contact the Backup Net Controller who has a phone and ask them to contact 911.

Backup NCS Takes the Station to Simplex frequency
Copies information, Name, Address, Nature of emergency,
Calls 911.

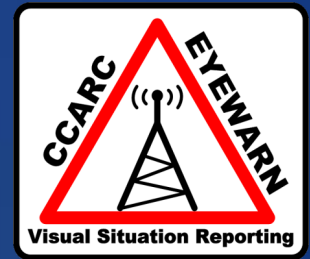
The Net continues while the alternate NCS handles the emergency.
At the end of the 911 call, the backup NCS returns and announces their return to the Net

Repeater, Simplex and Relays



- The primary frequency for EYEWARN is the 147.240 repeater. This currently linked to the 443.125 repeater to provide nearly pervasive coverage of Clark County. These repeaters may be unlinked during a disaster. EYEWARN Director (John Gaynor) or the Assistant EYEWARN Director (Stan Nelson) will notify the NCS team if the repeaters are unlinked.
- Simplex operations may be necessary if the Repeater systems fails. For full county wide coverage using simplex, stations may need to relay information back to NCS.

Equipment



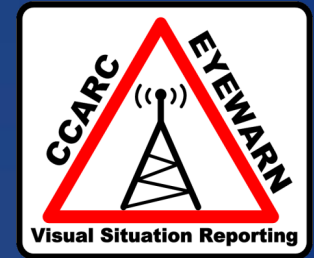
- A single NCS station should be prepared to operate continuously for 4 hours. This implies the radio and power supply must be able to support a continuous net for this period of time.
- A hand held radio may not be sufficient for this type of operation.
- A disaster or an emergency could result in a loss of power across the region. An NCS station must be able to operate without the power for the grid up to 4 hours.

Equipment



- A Handheld Radio is not adequate for an NCS Station
 - Lacks RF Power
 - Some lack sufficient battery power for long term sustained communications
 - Antennas are poor RF radiators
 - Works poorly in buildings
 - Not designed to sustain long periods of communications.
 - Consider your HT as a temporary means of communication until you get your fixed mobile station connected.

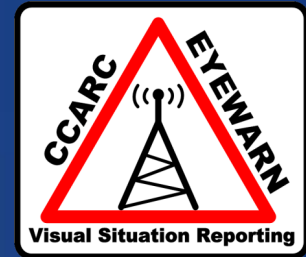
Equipment



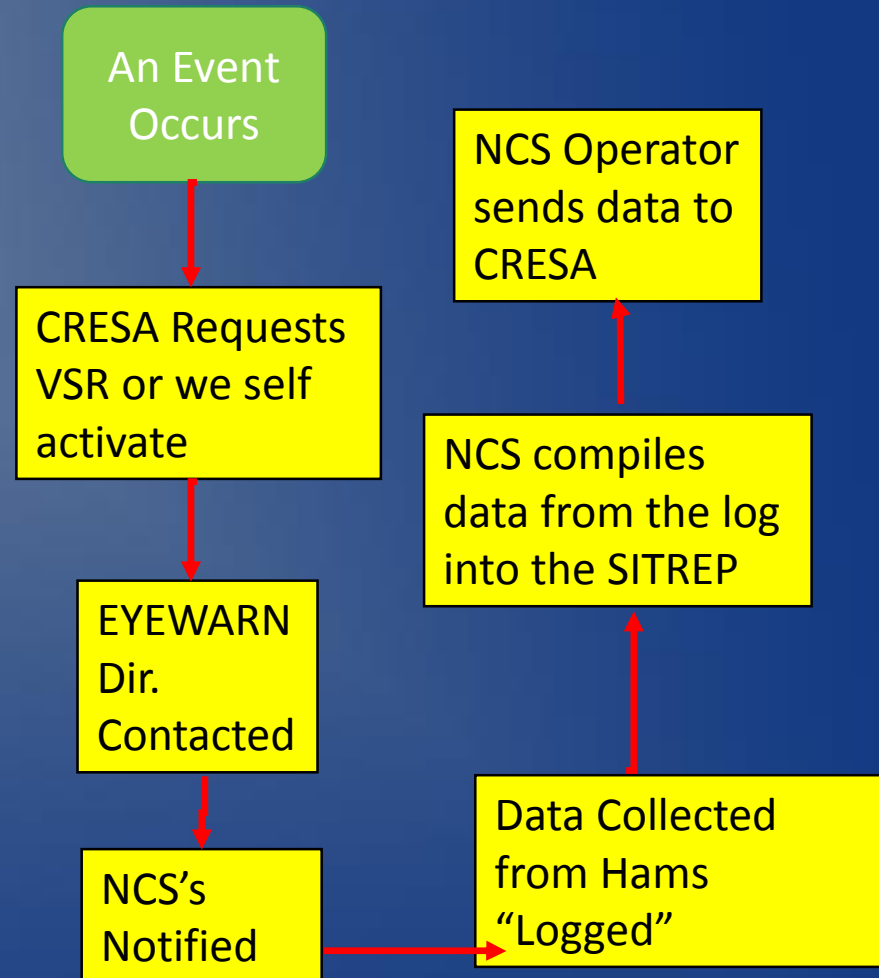
- A mobile radio can handle 10 watts of power continuously for extended periods of time and can provide 50 watts for simplex use.
- A magnetic mount antenna on a cookie sheet can provide an affective antenna.
- A deep cycle battery can sustain the power for the fixed mobile radio for at least 4 hours.
- Having a small generator is nice but not necessary. You will need to consider how you will recharge the battery.



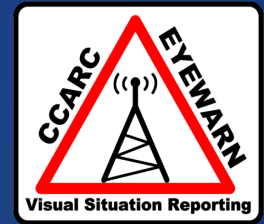
NCS Reporting Hierarchy



- EYEWARN supports CRESA. The reports received by the NCS are sent to the EYEWARN Director (or their backup) where the data is organized and transmitted to CRESA.
- This may be by email, or ARES team 9 at CRESA or Winlink



Simplex Operations



- For a Simplex NCS Station you need full power and a good antenna.
- 50 watts may allow you to transmit further than you can receive from a 5 watt portable. They can hear you but you cannot hear them.

Radio relays are used to identify weak stations that the NCS cannot hear and “relay” or “pass” that information to the NCS

Radio relays may be necessary to cover the entire county – especially in simplex operations

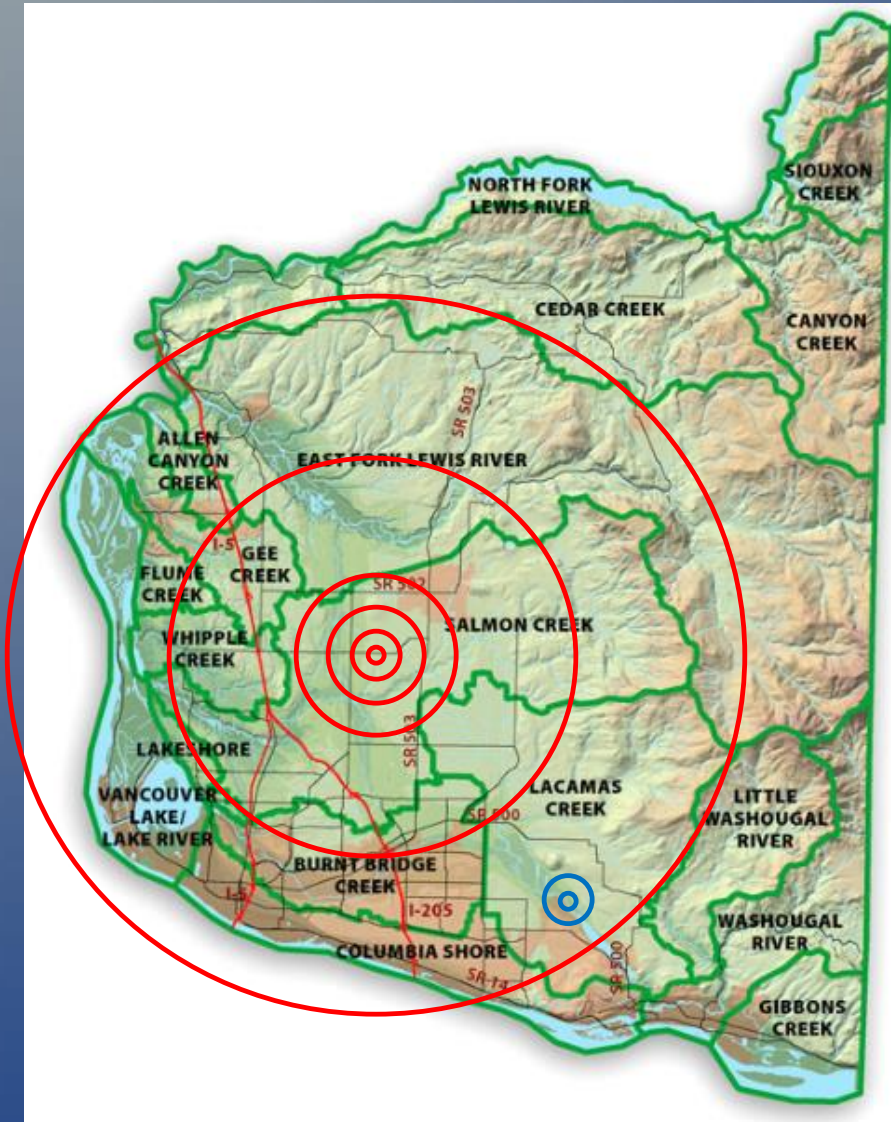
EYEWARN EFO

EFO – EYEWARN FORWARD OBSERVER

This is an amateur radio asset that is within visual range of a critical infrastructure asset and can [in a disaster] report on its status.

CRESA defines critical infrastructure as “Roads, Hospitals, Bridges, Power Lines, Shelters, Cell Towers” and other designated assets [at this time not all critical assets are known to the writer].

Simplex Operations



Example of a NCS broadcasting to a large area and needing relays to pick up weak transmitting stations.



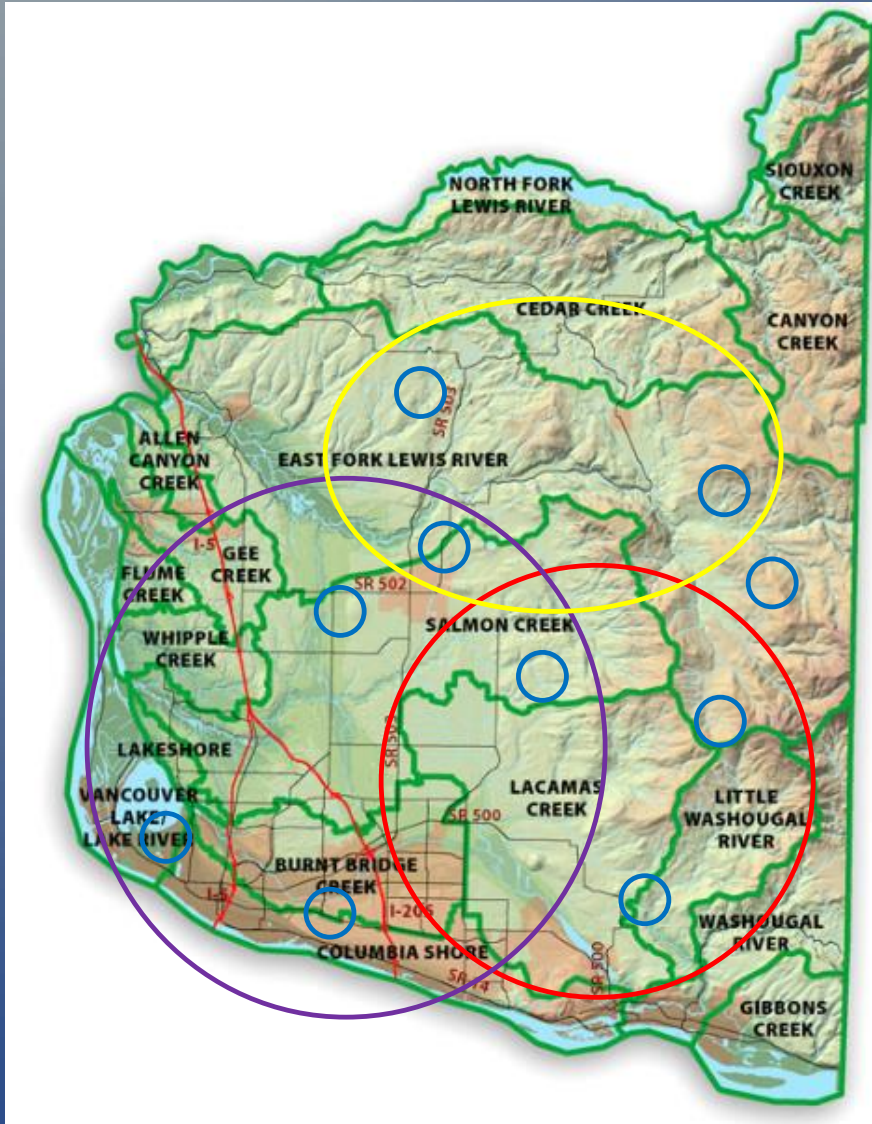
NCS
Station



Reporting
Station

For this scenario, relays may only be need for reporting stations.

Simplex Operations



Example of a NCS broadcasting to a small area and needing relays to transmit and to receive to weak transmitting stations.



NCS Station



Reporting Stations

This requires a different approach to executing the net.

1. The script preamble needs to be transmitted by each relay station at the beginning of the net.
2. It may be necessary to do multiple hand-offs or to broadcast the time of each hand-off.

DONE

