

***INTRODUCTION TO NET
CONTROL***



A training course for REACT Teams and members

This is a new REACT course designed to give REACT members the basic knowledge need to function as a Net Control Station in a REACT Traffic System, Command, Standby or Tactical Net. Effective management of a communications net and its resources is critical to making information flow, whether for routine administration and training or in the midst of calamity. Good Net Control Station operators have skills and knowledge that helps all of us perform our mission of emergency communications.

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Course Number: 116

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INTRODUCTION

There are a large number of nets that use the term REACT in their title. These include a variety of local, state, national, and international nets that are operated by REACT Councils, Teams, and individual Members. Some of these meet local needs, some are social in nature, and some serve to provide a meeting place for REACT members along with on-air training. These are all things that have merit in their own right, but these types of nets are not what this course addresses.

This course provides training on how to manage and control formal nets that pass formal message traffic and assist in the coordination of REACT response to major emergencies and disasters. These formal nets are established nets that meet on a published schedule, with a formal management structure, defined membership, training requirements for participation, published standard operating procedures, and a clearly defined and frequently practiced emergency mission. A key characteristic of a formal net is its ability to regularly pass radio message traffic that originates as a written message and is transmitted to its destination in either the standard radiogram or ICS 213 formats.

I. BASIC TYPES OF NETS

The basic function of a net is to connect two or more communications stations simultaneously for the purpose of transmitting information. We normally think of a net as being conducted by voice or digital radio. A net can be as simple as three operators using Family Radio Service UHF radios to conduct a Team training net in a local exercise. Or it can be an Amateur Radio net on High Frequency (HF) running with high speed Morse code. The development of push-to-talk voice systems on the Internet, including Talk Space and Zello, has opened the ability to conduct nets that reach around the globe and that require no licensing process.

We can classify nets in a variety of ways. These depend on the transmission method, whether or not repeaters are used, area served, function performed, or the method of control.

BY TRANSMISSION

Voice Nets – conducted using radios that transmit the spoken voice, typically on HF, VHF, or UHF. Voice nets include nets conducted using repeaters, linked repeaters, and Echolink. Most REACT nets will be voice nets.

Digital Nets – nets conducted by Morse Code, packet radio, Winlink, or any of a host of other operating protocols that transmit data as opposed to voice.

Internet and Cell Phone Nets – the development of push to talk applications for the Internet and network radios has created the ability to conduct voice nets over the Internet, or using cellular telephones, or a combination of the two.

REPEATER OR NOT

Nets on Repeaters – the widespread presence of Amateur Radio repeaters on HF, VHF, and UHF frequencies, and GMRS UHF repeaters, and the linkages of repeaters in systems allows stations to greatly extend their range beyond line of sight. The repeater takes a simplex signal in and rebroadcasts it out on a different frequency to all stations within its coverage area in duplex operation. There is essentially no delay in communications. Repeaters are a favorite host for local area nets.

Simplex Repeaters – there is a small number of repeaters that operate simplex, receiving the signal and then rebroadcasting it on the same frequency. Transmissions are slower, and operating a simplex repeater requires practice, but this provides the ability to install an inexpensive repeater for disaster operations.

Simplex – simplex nets are conducted without the use of a repeater. Each station needs the ability to receive from and transmit to the other stations in the net on the same frequency. Five REACT base stations in a community conducting a net on a Citizens Band channel is an example of a simplex net.

AREA SERVED

Local Nets – these nets serve a city, a county, a local jurisdiction. The REACT equivalent would be a net used by a Team.

State or Section Nets – state nets in the United States tend to be emergency nets that support emergency communications. Section nets serve a state or part of a state based on American Radio Relay League Sections and are traffic nets (provincial nets are the equivalent in other countries). Membership in a state or section net is usually based on residence within the specific area and being part of a traffic system that serves it. In traffic systems local nets feed the state or section net. The REACT equivalent would be a net conducted by a Council.

Regional Nets - these nets are traffic nets that cover a call area, an area of multiple states in which call signs with the same regional number (for example, N0WGG is a 0 region call sign) are assigned by the Federal Communications Commission. The REACT equivalent would be a net conducted by one of our 9 regions.

Area Nets – for traffic handling the United States is divided into 3 areas, each composed of several regions. Area nets collect traffic from the Regional Nets and either pass it to another region within the Area or forward it to a Transcontinental Net.

Transcontinental Nets – transcontinental nets collect and move traffic from one area and move it to another. The REACT equivalent in terms of area covered, although not in volume of the effort, is the REACT/Traffic System Net.

Point to Point Circuits – there is one other type of net, the point to point circuit. This consists of one station that passes messages to another station and receives messages back, usually for a very specific function. This is the primary function of the two stations, for example, a point to point circuit from an incident location to the Emergency Operations Center. Point to point circuits may involve relay stations when distance or difficult topography is a consideration.

FUNCTIONS

We will cover four types of functional nets in the next section: Traffic, Standby, Command, and Tactical. These are all operational nets. However, there are other types of nets, including:

Social Nets – a substantial portion of emergency communications organization nets are social nets. A social net welcomes all comers, often including people who are not members of the hosting organization, for comradeship, bonding, recruiting new members, selling, buying, and trading equipment, announcing public events, etc. There is little or no emphasis on developing traffic handling skills. Training may be conducted but it is not a primary function of the net. The rhythm is relaxed and there is an emphasis on making people feel welcome. These are all legitimate functions. However, social nets typically have a significant learning curve in a disaster that limits their initial effectiveness.

Training Nets – training nets can perform a variety of training tasks. The focus is on teaching operators information needed to do anything from managing a Team check book to writing a radiogram message.

METHOD OF CONTROL

Nets operate in one of two basic formats, either as determined by the standard operating procedures of the net or by the Net Control Station based on conditions. Nets can change format, again based on conditions.

Directed Nets – in a directed net all operations of the net are controlled by the Net Control Station. Net Control determines when stations check-in and traffic is listed, which stations call other stations in what order, the order in which messages are passed, the appointment of stations to net duties, who has permission to leave the net, etc.

Free Nets – in a free net, there is a Net Control Station to open and close the net and to maintain a list of check-ins and the net log. Stations still need to get Net Control's permission to leave the net. However, stations may call each other or pass message traffic without clearance by net control.

II. NETS IN USE

The regular operational nets managed by the REACT Training and Operations Committees use the online push-to-talk service provided by Zello. Zello has been selected as a standard for these nets because it allows users with licenses in different radio service, or with no license at all, to communicate.

The nets operated by the Training and Operations Committees are not social nets. The standard is fast, precise, professional transmission of information of significance to disaster operations.

- Standard procedural words, the standard International Civil Aviation Organization phonetic alphabet, standard numbers are used.
- Old law enforcement alphabets, ten codes, or Q signals are not used.
- Pleasantries, non-pertinent conversations, chit-chat, rag chewing, or ratchet jawing are neither appropriate nor appreciated.

These nets are REACT nets – they are not intended for use by members of other organizations or as a recruiting tool for REACT. During a disaster or a national

security event information may be transmitted that involves personal privacy information or response information that is operationally sensitive. REACT International must take reasonable steps to protect this information, and cannot afford the legal liability associated with not doing so. The only non-members welcome on these nets are known Liaison Stations from other radio services, or stations from other organizations invited because of specific event requirements.

REACT/Traffic System Net – The REACT/Traffic System Net is a scheduled, directed traffic net. Its mission is to pass formal radiogram or ICS 213 General Message operations messages between REACT International, Regional Directors, Councils, and Teams in major emergencies and disasters, to interface with Amateur Radio traffic nets, and to pass administrative messages during routine operations.

- The REACT/Traffic System is a membership based net, with participation restricted to designated stations, distinguished with REACT Traffic call signs. Liaison stations from Amateur traffic nets should identify with their FCC call sign.
- The net starts at a regularly scheduled time during routine operations, and finishes its session once all listed formal traffic has been passed and announcements have been made.
- Standard voice transmission speed is 15 words per minute. High speed transmissions will be a reading speed, approximately 100 words per minute.

REACT/Standby Net – The REACT/Standby Net is activated as a staging directed net in large disasters by a general call to all REACT Teams. Its function is to maintain a list of stations available for assignment and to coordinate assignments of stations to other nets or specific functions.

- Stations check in with their Team name and unit number. Stations with Amateur or GMRS licenses should not check-in using FCC call signs as those call signs do not indicate the location of the station.
- Net Control will call the roll based on check-ins on a schedule based on the needs of the incident, typically every hour or every two hours. Stations leaving the net should check-out with Net Control.
- Message traffic is normally informal.

REACT/Command Net - The REACT/Command Net is a type of tactical free net, activated when needed during major emergencies and disasters for coordination of the REACT response. The Command Net serves as an emergency operations center for the Incident Management Team with participation by Regional Directors, Councils, and Teams, as required by the situation.

- Incident Management Team members use their incident command system positions as their call signs; all others identify by their Region, Council, or Team name.
- Message traffic is both formal and informal.

As a naming convention to aid identification that these nets are operated by REACT International Committee, they are listed in Zello as REACT/name of the net. The same convention will be used for any other nets established by the Training and Operations Committees, and is consistent with Zello's naming conventions for disaster operations.

Tactical Nets – Tactical nets are nets established to manage response to a specific incident. They may be directed or free. They serve as a combined command net and net for communications to, from, and among the deployed units and single resources.

- In large events, multiple tactical nets may be established to serve different Incident Command System staff sections or branches or different field groups or divisions. These nets operate on different Zello channels or different radio frequencies. If multiple nets are being used, there must be an established incident communications plan (using ICS form 205) for the incident and procedures for liaison between the nets must be established and briefed.
- Unlike the REACT Traffic System, Standby, and Command Nets, tactical nets may be conducted on Zello, on frequencies requiring an operator license (Amateur, General Mobile Radio System, Business Radio), or on frequencies licensed by rule (Citizens Band, Family Radio, and Multi-Use Radio).
- Operators on Zello or frequencies licensed by rule should use either the tactical call sign for their position or function, Traffic Call Signs if the station is a Traffic System station, or Team name and unit number as appropriate. Use of Team name is important to allow identification of operators from

different Teams but with the same unit number. Operators on frequencies requiring a license must identify by their assigned FCC or other nation communications agency call sign.

- Message traffic is predominantly informal, but the net must be ready and able to handle formal message traffic if required.

III. NET ORGANIZATION

GENERAL PRINCIPLES

The nets managed by the Training and Operations Committees are formal organizations, with leadership and functional positions, and with an established membership. Net assignments can be semi-permanent or be rotated on a published schedule. If you cannot perform a net assignment for a scheduled net, you must contact the individual who is assigned to manage staffing for the net far enough in advance to allow a substitution. Simply abandoning the job you have been assigned to do something else, even if you view that something else as more fun or more important, is a major and disqualifying breach of communications discipline.

NET MANAGER

REACT International's Training Committee serves as the net manager for the REACT/Traffic System Net. REACT International's Operations Committee serves as the net manager for the REACT/Command Net and REACT/Standby Net. The Net Manager:

- (1) Determines net schedules for routine operations.
- (2) Publishes standard operating procedures for the Net.
- (3) Maintains the net membership list.
- (4) Appoints Net Control Stations and Back-Up Net Control Stations.
- (5) Identifies training needs and works with the Training Committee to address those needs.
- (6) Receives reports from Net Control Stations.

(7) Publishes monthly use statistics to identify trends and service levels, to provide information for REACT marketing efforts, and for use by the Board of Directors in evaluating progress in developing effective emergency communications.

(8) With the lead Net Control Station conducts emergency operations planning for the net.

(9) With the lead Net Control Station identifies and schedules staffing required to support major emergency and disaster operations.

(10) With the lead Net Control Station requests mutual aid to meet staffing needs.

NET CONTROL STATION

Stations appointed as Net Control Stations should be experienced net members and hold a current positional qualification as a Message Team, Communications Team, or Base Station Operator. The Net Control Station:

(1) Opens and calls the net on schedule.

(2) Determines whether the net is directed or free.

(3) Designates Back-up Net Control, Liaison, and Bulletin Stations,

(4) Determines how informal and formal traffic will flow in the net.

(5) Maintains good communications discipline and adherence to procedure in the net.

(6) Records net participants.

(7) Maintains the Net log.

(8) Serves as Net Control for the entire scheduled net, unless relieved by a qualified Net Control Station or Back-up Net Control Station, upon equipment failure, for short breaks for urgent personal needs, or on a scheduled shift change during or at the end of an operational period.

- (9) Closes the net on schedule or, if earlier, when all net business is complete.
- (10) Submits standard net reports to the Net Manager.
- (11) With the lead Net Control Station conducts emergency operations planning for the net.
- (12) With the lead Net Control Station identifies and schedules staffing required to support major emergency and disaster operations.
- (13) With the lead Net Control Station requests mutual aid to meet staffing needs.

BACK-UP NET CONTROL STATION

The Backup Net Control Station may be at either a separate location from Net Control or collocated. The primary purpose of Backup Net Control Stations is to assume control of the net in the absence of or outage to the Net Control Station. Backup Net Control may be assigned other duties by Net Control as needed – for example, maintaining the net log in a large and busy net. In nets conducted by radio, Back-Up Net Control Stations should have coverage of the area equivalent to that of the Net Control Station.

LIAISON STATION

Liaison Stations operate between nets, either simultaneously being a participant in both nets, or sequentially checking in to one net, and then, when that net terminates, checking in to another net. The purpose of a liaison station is to transfer traffic from one net to another. Liaison Stations working with Amateur Radio nets may be REACT members with appropriate licenses and the equipment necessary to operate on the other net frequency. Alternately they may be Amateur Radio stations from other organizations designated by those organizations as liaisons to REACT. Radio Relay International has assigned Liaison Stations to the REACT Traffic System Net.

BULLETIN STATION

Bulletin Stations are responsible for transmitting specific types of information from other sources to the net. For example, in a severe weather response, a bulletin station could be assigned to relay National Weather Service watches and warnings to the participating stations.

RELAY STATION

In some cases in radio nets one or more participating stations may have routine or intermittent difficulty accessing the Net because of distance, band conditions, topography, etc. In these cases, Net Control may designate a Relay Station that can maintain contact with the station, check the station in and out of the net, and pass and receive traffic for that station. Use of Relay Stations significantly slows net operations but may be important to ongoing operations or to simply maintaining engagement of loyal net participants.

IV. OPERATING PRACTICES

EQUIPMENT

To some degree how good a job you do as Net Control depends on how good your equipment is. You need:

- For radio nets a good antenna with good coverage of the area the net covers.
- Zello nets can be run off your smart phone or desk top computer. However, mobile network radios produce a better signal. And yes, you can run a radio net with a handheld, but again a base or mobile radio is more efficient.
- A low noise environment. Noise cancelling microphones and head sets that mask distracting background noise in your ear are a good thing, but your operating noise level can be controlled to some degree by just closing the door. Having a large vocal dog barking continually during your net transmissions and when you are trying to copy down weak check-ins is not the best way to go.
- A copy of the net roster with call signs and locations.
- A copy of the standard net script (net scripts are provided as an appendix to this text – the most up to date versions are in the REACT Traffic System Field Operations Guide, which can be requested from Training@REACTintl.org).
- Net log sheets in sufficient supply for the period of the net (a Word master can be requested from Training@REACTintl.org).

- Message forms, both radiogram and ICS 213, in sufficient supply for any messages to or through your station.
- A copy of the templates for REACT formatted ICS 213 messages (available from Training@REACTintl.org).
- Sharpened pencils (several) or pens so that you can write in the logs and on the message forms as need be.
- Computer (laptop or desktop) with Internet access and a printer may be helpful.
- Flat worksurface (desk, table, etc.).
- Accurate clock or watch set to Universal Coordinated Time (UTC or ZULU) may be helpful if you handle amateur radio messages.
- Battery backup to ensure the ability to complete the net.

BRIEFING

We operate nets in two situations: (1) normal routine operations and (2) disaster and major emergency operations. Routine operations nets run off the net script and standard operating procedures.

However, disaster operations require several adjustments in procedure. The most important is that Net Control and the member stations should be briefed on the characteristics of the incident, the goals of the response, the organizational structure of the response, and the communications plan. A copy of the Incident Action Plan (ICS Forms 201 through 205) provides the desired minimum information.

Unfortunately, the Incident Action Plan may not make its way to the communications operators, especially when nets are supporting a response some distance from the location of the Net Control Station. That means that the Net should operate from its emergency operations plan (see the appendix for an example at the end of this text), using any information available from the supported organization, from liaison stations, and from bulletin stations as the basis for decision making.

When a net opens in an emergency, the Net Control Station should provide a quick briefing to net stations covering:

- The Net Emergency Operations Plan is activated as of (time)
- The Alert Level is (insert level)
- The Net is supporting (name of supported agency or agencies)
- Our point of contact is (facility and duty position of the contact)
- The event is (name or type of the major emergency or disaster)
- Impact as of (actual or predicted time)
- To (place or location)
- With (types of impacts ongoing or expected)
- Critical safety information is (any critical warnings of hazards that may impact Net members)
- Phase of operations (pre-impact deployment and population protection, response, emergency recovery, recovery)
- REACT's assigned function is (what REACT Teams are being activated to do)
- Expected duration (of the response if known)

This briefing is available for filing as an ICS 213 formatted message at <http://reactwarning.org/formatted-reports>, and can be distributed by e-mail or Winlink. Time to transmit by voice to the stations on a net should be no more than 1 to 2 minutes, and expenditure of time is well worth it in improving the quality of net operations.

The briefing should be repeated when updates occur on both Traffic and Standby Nets. It can be used as shift briefing on Command and Tactical nets.

NET SCRIPT

Have the standard net script at your operating position. Although experienced operators can run the net from memory, truly experienced Net Control Stations use the script, especially in high stress situations, to ensure that they do not overlook something. Our scripts are short, and, if you are used to operating a social net, it may take some time and conscious effort to cut your wording down to the bare minimum that they represent. The net scripts (at the time of publication of this text) for the three standard Training and Operations Committee nets are included at the end of this text. The most current net scripts are always available in the Traffic System Field Operations Guide.

START ON SCHEDULE

As Net Control you should start the net at the schedule time on the minute. If you are late, other stations will think it is appropriate to be late also. Pretty soon the stations that value their time will start doing something else in the Net's scheduled time block – no one likes to have their time wasted. Not starting on time sends the clear message that you do not respect or value the stations on the Net and that you do not believe participating in the Net is an important obligation.

IF NET CONTROL DOES NOT SHOW UP

From time to time something will happen to the scheduled Net Control Station. Lightning will fry their radios and blow a wall off the side of the house (pretty impressive when it happens and a good excuse to miss the net). Power will go out, equipment will fail, people will fall suddenly ill, traffic accidents will happen, etc. If Net Control does not show up at the scheduled time, wait three minutes. At that point (1) any station with Net Control experience, or (2) absent such a station, any station should use the net script to open the Net and ensure the that traffic is passed as needed.

CHECKS FOR EMERGENCY AND PRIORITY TRAFFIC

In most net scripts from Amateur Radio Emergency Services or AUXCOM nets immediately after the opening call, the Net Control Station checks for high precedence traffic. In a major emergency or disaster, it likely that most of the traffic will be EMERGENCY or PRIORITY. You run the risk of the net being swamped immediately, and never get to an orderly briefing or check-in process. In addition, if you do not know who is already on the net, you end up asking for each piece of traffic whether there is someone who can accept it, slowing down the net. There is a delicate balance between maintaining control and being able to pass large volumes of high precedence traffic.

The amount of time required to call the net, deliver a quick briefing, do check-ins, and then start passing traffic should not delay EMERGENCY or PRIORITY traffic substantially. If the check-in list is so long, that a delay is likely, you should identify that in routine operations and subdivide the net.

For routine nets not in emergency communications the basic protocol of asking for EMERGENCY or PRIORITY traffic immediately after the net call makes sense, as the amount of such traffic should be very limited.

ROLL CALL AND CHECK-IN

There are two standard ways to determine who is participating in the net. For smaller nets with an established membership, Net Control may do a roll call, calling each station on the net roster in turn. Stations answering check-in with call sign and any traffic. Net Control acknowledges the station and moves on to the next station. For example:

Net Control – *Stations check in as called with any traffic*
Net Control – *Traffic 111?*
Traffic 111 – *Traffic 111, no traffic*
Net Control – *copy Traffic 111, Traffic 242?*
Traffic 242 – *Traffic 242, one Routine for Point Fortin, Trinidad*
Net Control – *copy Traffic 242 one routine, Traffic 356?*
Etc.

In large nets, check-in by roll call uses too much time. Net Control can use either of two approaches:

- (1) If the net serves an area that has a large number of stations, but is not differentiated for the purpose of a net, Net Control may ask for:

Any station checking-in, do so now with call sign and traffic.

The difficulty is that more than one station may try to check in at the same time. If so try to distinguish one characteristic of one of the stations and use that to sequence the check in. For example:

Net Control - *Any station checking-in, do so now with call sign and traffic*
The net – *HASHHASHHASH 2 one Routine*
Net Control – *stations doubled, station ending in 2 with one routine repeat call sign*
Traffic 732 – *Traffic 732*
Net Control – *copy Traffic 732 one Routine, other station now*
Traffic 616 – *Traffic 616 no traffic*

- (2) If the net serves a large number of stations, but the area can be segmented, for example by Council or Region, Net Control may ask for:

Region 9 stations check-in now with call sign and traffic.

Depending on net size and the volume and type of traffic, Net Control may also ask for stations that can accept traffic to specific areas. This would normally be handled off the net roster, but in events where there is no net roster, this can save time. For example:

Net Control – *stations check in with call sign, traffic, and area for which you can accept traffic.*

Traffic 813 – *Traffic 813, no traffic, accept Phoenix Arizona*

Net Control – *copy Traffic 813 accept Phoneix*

Traffic 913 – *Traffic 913, one Routine for Glendale California, accept Ontario Canada*

Net Control – *copy Traffic 913 one Routine, accept Ontario*

PASSING NET CONTROL

If Net Control needs to leave the net for any reason, the responsibility for continuing the net's operations must be passed to the designated back-up or to another station. Failure to do so is gross negligence that should bar the individual from serving as a Net Control Station at any time in the future. The transfer is done by a voice handshake so that both stations, and everyone listening, understands which station has Net Control. For example:

Traffic 241 – *Traffic 921 can you assume Net Control for 5 minutes?*

Traffic 921 – *Affirmative, I can assume Net Control*

Traffic 241 – *Traffic 921 you have Net Control*

Traffic 921 – *Traffic 921 has Net Control*

... 5 minutes pass ...

Traffic 241 – *Net Control, Traffic 241 can resume Net Control*

Traffic 921 – *Roger Traffic 241, you have Net Control*

Traffic 241 – *Traffic 241 has Net Control*

This sounds very stilted and formal, and it is. Why not just say “can you take it” and “yeah I got it”? What the military learned about who has control of the ship or command of a unit in combat, and the Incident Command System has learned about the necessity to assume and transfer command in an incident, directly applies to net operations. This protocol mirrors those cases exactly. The formal language and the sequence of statements clearly establishes who is in charge. Even more importantly, it leaves no doubt in the mind of the person who has Net Control and the person who has transferred it and the other stations on the net what the status is. If you say you have Net Control it is hard to avoid the responsibility that goes with having it.

If you are asked to take Net Control, it is because either the Net Control Station has a legitimate need to deal with something at his or her location, or it is for training purposes. Being asked to assume Net Control in the midst of a net is normally unexpected and can be both startling and a bit scary. The following rules apply:

- (1) Always be prepared. Net Control in a disaster may simply disappear due to power outage or the effects of the disaster's impacts. Every Net member should have the net script available (net scripts are provided as an appendix to this text) and have a log sheet and a check-in sheet at their operating position as a normal part of station equipment.
- (2) If Net Control asks you to assume the function, he or she has confidence in your ability to do the job.
- (3) Do not hesitate to ask other members of the Net for help.
- (4) Make sure you know who is on the net and what traffic remains. If need be, run a new check-in to confirm the participants.
- (5) Follow the script.
- (6) If the original Net Control does not reappear, close the net when all traffic is complete, or keep it open if a Standby, Command, or Tactical net. In those cases start working on the next shift's staffing, if that has not already been done.

USE OF PRECEDENCES

We use four standard and three exercise precedences to sort traffic and determine which message moves first. The four standard precedences, and the order in which messages should be cleared, are:

- **EMERGENCY** (written EMERGENCY) - Any message having life and death urgency to any person or group of persons, including official messages of emergency management and welfare agencies during emergencies requesting supplies, materials, or instructions vital to relief of those impacted by the disaster.
- **PRIORITY** (written P) – these are important messages having a specific time limit (if possible delivery in the same day), official messages not covered in the emergency category, and emergency-related messages that are urgent.

- WELFARE (written W) – these messages are either inquiries as to the health and welfare of an individual in the disaster area or a message from within the disaster area that indicates all is well. Handling of WELFARE messages may be delayed for some number of days after the impact of a disaster to allow the responding agencies to establish systems to track and account for people in the area. REACT does not normally handle WELFARE messages. However, some may be directed to us by people who know that you are a radio operator or through the amateur radio traffic systems.
- ROUTINE (written R) – these are normal day-to-day communications including REACT administrative messages. ROUTINE is the lowest priority for messages. In conditions of heavy message traffic, ROUTINE messages may not be transmitted during a disaster.

In a disaster or emergency, as messages are listed for the net, Net Control will clear stations to pass EMERGENCY messages first in order of being listed, followed by Priority messages, Welfare messages, and Routine messages in that order. The process sounds like this:

Net Control Station - *Traffic 241 clear your PRIORITY for Raleigh with Traffic 321, over*
 Traffic 241 – *Traffic 321 ready to copy?*
 Traffic 321 – *Go*
 Traffic 241 – *number group one five seven Priority Traffic figures group eight two one Glendale I spell Golf Lima Echo November Delta Alpha Lima Echo California ... etc. ... end and no more*
 Traffic 321 – *copy all, out*
 Net Control Station – *Traffic 434 clear your ROUTINE for Glendale with Traffic 822, over*

In normal conditions you may expect to handle Priority messages very rarely, Routine messages as the normal traffic, and Emergency and Welfare messages not at all.

The three exercise precedences are:

- TEST EMERGENCY (written TEST EMERGENCY)
- TEST PRIORITY (written TP)

- TEST WELFARE (written TW)

The use of TEST is taken from the use of this term in the amateur radio community for exercises and drills. The relative precedence of actual and test messages has not been established, and common sense suggests that they will not routinely be used at the same time. However, an actual PRIORITY or EMERGENCY message will always be handled ahead of any exercise message.

There are other precedences used in military and governmental communications. However, it is unlikely that you will ever encounter them.

MAKE HASTE SLOWLY

The emphasis on traffic handling is to handle as many messages as possible as quickly as possible. In doing this, the best practice is to make haste slowly. We do that by:

- Keeping transmissions brief and focused on the task of handling the business of the net. This may seem abrupt or even rude or hostile to those not familiar with net operations. Every word you say occupies air time, and air time is precious.
- Making sure messages are correctly formatted. Errors in formatting will cause the receiving station to ask for repeats and clarifications and lengthen the time needed significantly. Our two *Messages* training courses cover these in detail.
- Knowing how the net is run and where you are in the process. Net Control must keep track of where the net is in its work. So must all other stations – if Net Control calls Traffic 241 to pass his message, and 241 is not expecting to be called, does not have the message in front of him, etc., delay results.
- Transmitting at standard speeds of 10 words per minute for inexperienced operators and 15 words per minute as standard with 3-4 second breaks between preamble and address, address and text, text and signature. It is possible to transmit faster, but the average voice operator will have difficulty copying the message leading to requests for repeats and clarifications. Zello does have a history function that allows passing reading speed (approximately 100 words per minute) messages, but going back to transcribe a message after the net is over risks errors if you cannot understand the operator's voice.

DEALING WITH PROBLEM PEOPLE

There are three categories of problem people that you may encounter on the net. The first is the well-meaning wants-to-help member who has never taken any message training and no idea of net procedures. These can be very disruptive in their efforts to get in on the action. If a station checks in that does not have a call sign on the net roster or an identifiable REACT call sign or that is not following standard procedure, acknowledge them and ask them to monitor but not transmit until they are needed. Zello has security features that may allow you to exclude this station if you have suspicions that it is not a legitimate REACT or liaison station.

The second is the net member who wants to have an on-air fight over something, anything. You do not have time to deal with this sort of problem, but you must, so:

- (1) Take a deep breath.
- (2) Review what you know about this operator.
- (3) Remember that this may well be a result of the stress of the event, fatigue, personal impact of disaster impacts on the operator or the operator's family, etc.
- (4) Acknowledge the problem, tell them that you understand their point of view, and ask them to suggest a simple solution. This is one sentence.
- (5) If the suggestion is reasonable, make a note of it and let them know you will forward it to the Net Manager who will contact them to work out how to implement the solution.
- (6) If this does not resolve the problem remind the operator that you will try to get it resolved after the net is concluded, that you have to proceed with the net, and clear the station to close if he or she wishes.

The third is deliberate interference, spoofing, and jamming of your radio net. There are people who consider this to be great fun. Although the chances of the FCC taking action are slim, it is worth noting the exact time, a good description of the interference, anything that might suggest its source, the duration, and what the net was doing at the time. If possible, record the interference. If this happens again, or if the first incident is during a disaster or a national security incident, record the same information and report it. Send a copy of the report to the REACT Operations Committee.

If the interference is general, for example is continuous, or only occurs after any station starts to transmit, or is obviously harassing or spoofing valid transmissions, implement a channel change. In doing so, **DO NOT**:

- Acknowledge or engage the harasser or tell him to get off the frequency because you are doing official communications or that you are going to report him. This inflates his or her sense of importance.
- Say that you are changing frequency because of the interference or harassment – this validates the intruder’s activities for him.
- Give the channel or frequency to which you are going to shift.
- Say that you are experiencing interference.
- Instruct stations to change frequency or channel.
- Ask what happened to all the other stations if you suddenly find yourself alone with the harasser – go to the standard next frequency in the Net’s procedure for this type of incident.

Instead transmit a word that indicates to all net members that the net will change to a specific alternate frequency. There should be no discussion of this; for example, *red sky* and everyone changes to the frequency that *red* indicates. Say it once – if you keep repeating the word or phrase, even the slowest harasser will figure out that you are doing something to thwart his efforts. It is a good idea to have a number of alternates planned, representing random jumps, including even a return to your original frequency.

(4) Pick up operations as though there had been no disruption. If you go through a complete recalling of the net on the new frequency, the delay makes it easier for the deliberate intruder to find you again.

ABSOLUTELY DO NOT DOS

Net Control Stations must pay close attention to what is happening on the net to control several dangerous behaviors. If you detect any of the following, take immediate action to refocus the net on its job, and to alert the intended recipient of any compromised information that there is a problem.

Commenting on the traffic – Formal messages contain all sorts of information. The net's job is not to discuss this information, but to ensure that it gets to its destination. Talking about message contents creates delay in handling other messages and can violate individual privacy and/or compromise operational security.

Informally passing unconfirmed reports or rumors – Every disaster generates rumors and information that turns out to be false. In the first 24 hours of major event it is not unusual for at least half of what is reported to be wrong in at least some, if not all, of the details. This is not because of incompetence or ill intent. The friction of the disaster itself and the tendency of reports to be focused on what is immediately in front of the observer who may, or may not, understand what he or she sees, makes much of the information in error. The role of the Net is to pass information that has a known source and that can followed-up on. Remember that others may be listening and will spread the rumor you repeated, sometimes with tragic results.

Filling in the missing details – Helpful people will often generate completely false information to fill in missing details in reports because they want to be helpful. Missing details are missing for a reason; we do not know the information. That means the management system has to determine if the details are important enough to commit resources to discovering them. If false information is added to complete the report, the entire report becomes misleading and can cause anything from waste of resources to loss of life.

Running in circles and screaming and shouting – Under the stress of emergency operations many inexperienced operators will speed up well past their ability to actually pass a message. They believe faster is better. It is not. If you have to have someone repeat a message five or six times because they are talking at 250+ words per minute, garbling their pronunciation, and increasingly raising their voice, that individual needs to be relieved immediately. They are no longer communicating, but have become part of the communications problem. Emphasize frequently the need to transmit at a standard 10 to 15 words per minute, to take deep breaths to reduce stress, and to take regular breaks.

SHIFT STAFFING

In disasters you may need to provide continuous communications coverage for days or weeks. Extended operations past 4 to 6 hours require that Net Control and the Net Manager address early-on in the event how you will maintain adequate communications operators and net control stations available to meet your taskings.

The first issue is when are you actually needed? The assumption is that disasters require full-up 24 hours a day operations. In actuality, nothing is lonelier than the time period between midnight and 0600 local because very few people are awake. If you have been asked to maintain 24 hour coverage monitoring for emergency calls for assistance from the general public, you need to be able to run a 24 hour operation, and your operators need to be alert at 0330. But if you are supporting another agency and they stop at 2100, there is no real requirement to have an operator on duty until they resume at 0600. Save your operators' energy until it is needed.

Next determine how many operators are needed at any given time. Our Typed Team structure (Communications Teams, Base Radio Station Teams, and Message Teams) is based on two people. A single resource of a Boss and an Operator can maintain operations of a single radio position for a 12 hour shift in a shelter or emergency operations center environment. This allows for one person to maintain the log and the other to run the radio, one to run messages, one to take a break and still leave the position staffed, etc. In deployments in the field, two operators working together is critical for basic operator safety. So if you are tasked to staff city shelters and there are 10 shelters plus net control at the emergency operations center, you need 22 trained and credentialed persons a shift.

Third, you have to schedule the people to fill the shifts. Disaster work is high stress work. It is often accompanied by inadequate rest. The daily diet may not be chosen to meet nutritional needs, but rather on which pizza operation can deliver (actual experience), or which voluntary organization is providing sandwiches (actual experience, the ever-delectable tuna fish and peanut butter on white bread, yes, both tuna fish and peanut butter on the same sandwich). For most people, three or four 12 hour shifts, one a day, is the point of exhaustion.

No current REACT Team can meet these required levels of staffing. That means that in the planning process you must scale your commitments to supported agencies to what you can support. In the event, one of the first tasks of the Net Manager and lead Net Control Station is to contact their Council, Region, and REACT International to request mutual aid.

V. NETS ON REPEATERS

Repeaters offer an ideal way to extend the coverage of nets on Amateur 10 meters, VHF, and UHF frequencies. However, participating stations must be aware of several factors.

(1) Make absolutely certain that you have permission to operate the net on the repeater, even in an actual declared disaster. Repeaters are the property of the club or individual who owns them and using a repeater without asking may be common practice, undesired but forgiven in an emergency, or a major cause for future hate and discontent. This is less of an issue in the Amateur Radio community, but it is a significant issue among General Mobile Radio Service repeater owners, and a large percentage of GMRS repeaters are either closed or by permission only. A hint – if you regularly use another organization’s repeater, it is a good idea to offer to help with the expense of operating it. Even a small donation will be appreciated.

(2) Be polite to other users. The Friday-afternoon-drive-home-from-work informal net may have no idea that you are trying to coordinate operations in a flash flooding incident 30 miles away. If you tell them to get off the repeater, authoritatively, in your best command voice, some of them will think you are a jerk but go somewhere else. But someone may think that the way to deal with a jerk is to deliberately spoof, jam, or bring the repeater down. If you are polite, say “excuse us” and “thank you,” the very large majority of operators will understand and gladly give you the frequency.

(3) Know the characteristics of the repeater. You may not regularly encounter the following, but these are not uncommon operating factors:

- The repeater is only operational at certain times of the day, on certain days, or even irregularly. This is fairly common among GMRS repeaters.
- The repeater has significant coverage holes. We all assume you can draw a nice round circle on a map around a repeater site and everything within the circle can both receive and transmit. If your repeater is on top of a 5 story building, 3 miles from a 1000 foot high mountain range, you are not going to be able to routinely communicate with stations on the other side of the mountains.

- The repeater is part of a linked system. You may well be able to talk to stations 300 miles away through the linked system, but understand the key-up and time out delays involved.
- Repeaters have a time-out function that cause the repeater to drop transmissions that extend beyond the time-out limit set for the machine. Typically this is in the 2 to 4 minute range. That is a long time. You are generally better if you limit the length of transmissions to the minimum needed, and use the standard breaks when passing a voice radiogram or ICS 213 message. Persistent time-outs can cause the repeater to lock-out incoming transmissions, requiring that the control operator reset the machine. Now you have to find out who the control operator is, how to contact him or her, do so, and wait for that person to do the reset. Avoiding timing out the repeater is a good thing.
- There are simplex repeaters. These can be small, easily portable, add-ons to a hand-held or standard mobile radio, and are ideal for temporary emergency communications. However, they require practice to use efficiently, and communications are slower because your input message is retransmitted after you complete it.

VI. SUBDIVIDE THE NET

If your traffic net gets to the point that you are taking 5 to 10 minutes to handle check-ins, you likely have too many stations participating. Consider subdividing the net. We currently do not have this problem in general in REACT, but when the Traffic System net gets larger than its design size of 2 active stations in each region checking-in routinely, that net will need to subdivide.

Dividing a net should be done on jurisdictional lines. For example, when the Traffic System Net reaches its capacity, it might be divided into east and a west area nets based on our Regions, with liaison stations to pass traffic from one net to the other when needed.

In a disaster, logical operational boundaries may be used. An East Coast hurricane with all REACT Teams having a participating station on the net could be subdivided into a southern net (Region 3) and a northern net (Regions 1 and 2).

VII. WHAT YOU DO NOT CARE ABOUT

As a net control station there are a number of things that seem like they must be important, but in fact are meaningless. Do not allow these to distract you from the essential purpose of the net.

HOW LONG THE NET OPERATES

In a disaster, you may have a narrow window to pass operationally critical information to another station in a net. If we have many stations, and net control goes through a routine of everyone (1) check in by call sign, (2) then another round of everyone give their first name, (3) followed by everyone give a look outside weather report, and (4) finally ending with everyone giving their location. If you have 5 minutes to get a message to a liaison station, and check-in consumes 45 minutes (actual case not so long ago), you missed the chance to get the message out.

Good nets start, pass traffic and close, fast. For example, the REACT Traffic System Net has a 30 minute block, and normally finishes its work in under 15 minutes. That is because of a number of factors:

- (1) Traffic systems, such as the Radio Relay International nets with which we interface, run on a tight schedule to pick up traffic, pass it to higher level nets, get it across the country, down to an intermediate net, and then finally to the end destination. You miss the schedule; the message does not move.
- (2) In nets conducted by high frequency radio, favorable band conditions may be transitory, and operators must be able to use every available minute to move messages. REACT is not running high frequency nets currently, but we are exploring ways to interface with HF traffic nets in the future.
- (3) In nets conducted by any means in disasters, power outages and infrastructure damage may mean that even what appears to be a solidly working circuit disappears suddenly.
- (4) In addition, there is the general principle (and actual Federal Communications Commission rule for all the services that we use) that communications operators should use the minimum time needed to conduct their business, and then release the frequency for other users. Although many of our nets operate on Zello, practicing this principle is a key step in developing good communications skills for emergencies.

NUMBER OF STATIONS PARTICIPATING

More must be better, correct? It is great to be able to brag that 90 stations were on last night's net. However, after a certain point, additional stations actually make the net more difficult to operate. Net Control will have more difficulty maintaining an accurate log, determining the volume and distribution of message traffic, etc. Just checking-in a large number of stations consumes an inordinate amount of time. You need the number of stations necessary to do the net's function, no more, no less.

WHAT IF NO ONE HAS ANY TRAFFIC?

If you hold a net, people check-in, and no one has any traffic for the net, what do you do? Close the net. But that is a failure isn't it ... surely someone has to talk about something? Conducting a net achieves four objectives:

- (1) Stations involved check their communications systems and verify that they can contact each other – it is a circuit check.
- (2) Availability of net member operators is confirmed.
- (3) Each time the net is called and stations check-in you are conducting continuation training to ensure members remember the net procedures.
- (4) Information as formal or informal traffic is passed.

If there are no formal or informal messages or announcements, the net is still a success because you have met objectives (1) through (3), and were ready to do (4). If you do (1) through (3) and then have to chat about recipes or the weather or the latest internal politics in your Team or ..., the Net is a failure because you have not maintained net discipline. Now, if you are operating a social net, the reverse is true because your objective is not operations but rather comradeship.

NAMES, LOCATIONS, HOW PEOPLE'S DAY WAS, LOCAL WEATHER, ETC.

To check in a station on a formal net, all you should need is the station call sign. Net Control knows where the station is located and the operator's name from the published net roster. If Net Control needs something else, he or she can ask for it.

Knowing who you are talking to and things about them seems like a nice friendly way to operate. That is true if this is a ratchet-jaw, rag chewing hobby. But, we have no way of controlling who is listening to our net in a disaster or a national security event. Revealing personal details about net members may be a threat to their security and to the safety of their station.

In disasters or major emergencies weather reports may be vitally needed information. However, there is a standard for these reports, and “the wind is blowing but the sun is out, and it has been a nice day” does not meet that standard. Specific observations, such as actual wind speed, inches of rain or snow in the period from X to Y, hail of size of Z, barometric pressure, etc., are needed. The national weather service in most countries has standards for observation reporting. Make weather reports when they are needed and using the standard observation format for the weather service with which you are working.

VIII. THE PAPERWORK

THE NET LOG

One of the key responsibilities of the Net Control Station is the Net Log. The Log is a two part document, the Log itself and the Net Roster. Like any log, it is a contemporaneous document that establish a legal record of the net’s activity. A copy is attached to this text, and is available as a Word document file (.docx) from the Net Manager.

Net Log – the Net Log is the record of the management information about the net and of the actual radio communications conducted. There are two parts, a header and the log entries.

The header establishes the date of the net, the radio service and frequency or channel on which the net operated, and the various duties to which stations were assigned.

The actual communications record consists of five columns below the header. Time should be listed either in Universal Coordinated Time (UTC or Z) or in local time. UTC is the standard when working traffic in the amateur traffic system. However, if the net is operating in support of an organization within a time zone, recording time in local time will make communications with the supported organization much easier.

The Event column records actions during the operation of the radio. Examples include the time the station opened, when the net was opened, which stations check in (generally most efficient as single entries for stations early, stations at the first call, and stations late), number and priority of messages, each message transmitted, informal traffic and announcements, significant outages, when stations are released from the net, when the net closed, and when the station closed.

The remaining three columns are for message management. The EPWRI column lists the number of messages by precedence – at the completion of check-in enter the total number of emergency, priority, welfare, routine, and informal messages listed. When each message is passed, make a similar entry of the precedence for that message. A quick scan of the column allows you to compare the number listed with the number passed to ensure nothing is missed. The To column indicates to whom a message was passed and the check in the Pass column confirms it was completed.

Net Roster – the Net Roster has basic header information similar to, but not as detailed as the information on the Net Log. The Call Signs, operator Name, and Location are as reported in the Traffic System Update newsletter. Three columns are used to record who checks in before the net starts (Early), when the roll call is conducted (On Time), or at the second roll call or after the net closes (Late). The final column, EPWRI, is used to indicate how many Emergency, Priority, Welfare, Routine, and Informal messages each station lists. This Roster gives you a working list of who should be in the net and after the completion of check-in the information you need to manage the flow of traffic.

The combination of Log and Net Roster may seem like unnecessary duplication. However, it is amazingly easy for messages to get lost in the system under the stress of actual disaster operations. Having multiple checks as to whether or not a message was processed helps to avoid (1) losing or forgetting the message and (2) being blamed for it being lost.

Lost messages can have significant consequences. In one case, in a search for a missing aircraft, information needed to locate the crash site was received on the first day, never logged, scribbled on a corner of a piece of paper, dropped under a desk, and never acted on. A week later it was found after over 100 low level search aircraft flights in summer turbulence a few minutes after the crash was found. No one had survived the crash, but if they had, and had died waiting for rescue ... In another case in a flood in Virginia a request for helicopter rescue was passed from one coordination center to another, never logged at the new center, never acted on – eight

hours later, the first center followed up at shift change, only to be told “what helicopter rescue?” Two more hours and the two survivors were finally plucked from the tree by a Coast Guard helicopter after hanging on in the middle of a flooded river for 11 hours. Keep good records. If there is a missing entry use that as a reason to confirm the action was taken or that the message was actually delivered.

NET REPORTS

Net reports fill an important role. They document our radio service and frequency use, provide a record of net participation, qualify net members for awards, and make useful posts to your Team social media accounts that show you are part of an active organization. There are two types of net reports:

Daily Net Report – this is a report filed by the Net Control Stations within 48 hours after each net with the following information:

- Name of the net
- Date
- Number of stations
- Identification of the participating REACT stations
- Number of Emergency formal messages
- Number of Priority formal messages
- Number of Routine formal messages
- Time of net start with time zone
- Length of net

An example of the report written in radiogram format:

```
REACT TRAFFIC NET REPORT 20  
JUNE 3 STATIONS 111 241  
321 4 ROUTINE 2115EDT 8  
MINUTES
```

Net reports on nets managed by the Training and Operations Committees are forwarded to Training@REACTintl.org. We post daily net reports on the Facebook pages REACT Warning Team 6247, REACT International, and REACT members.

Monthly Station Report – this report is submitted monthly by individual operators to provide a record of the amount of work each station performs:

- Operator name
- Call Sign
- Month
- Number of nets met (including exercises)
- Number of message handled (count the number of messages originated, transmitted, received, delivered, each message only counting once) (a book message is counted as the number of addressees)

An example of the individual report written in radiogram format:

GEORGE SMYTHE TRAFFIC 535 JUNE
4 NETS 26 MESSAGES

Monthly Station Reports count toward Traffic System operational awards.

APPENDIX 1 – NET SCRIPTS

DAILY TRAFFIC NET SCRIPT

- On REACT/Traffic System Zello Channel

All Stations, this is (call sign) net control calling the REACT Traffic System directed net.

Any station with Emergency traffic?

(call sign) pass your traffic.

Any station with Priority traffic?

(call sign) pass your traffic.

Net member stations check in by call sign with any traffic. *Call roll in order of call sign.*

Acknowledge stations by Call Sign if no traffic, or (call sign) Copy (precedence of traffic listed)

(call sign) pass your traffic. *Start with the highest precedence traffic*

Any Announcements or informal traffic?

Late check-ins or additional traffic?

This is (net control call sign) closing the REACT Traffic System net at (24 hour clock time + time zone), out.

DISASTER TRAFFIC NET SCRIPT

- On REACT/Traffic System Zello Channel

All Stations, this is (call sign) net control calling the REACT Traffic System directed disaster net.

Incident net briefing follows: *Have the briefing as complete notes before you start.*

- The Alert Level is (insert level)
- The Net is supporting (name of supported agency or agencies)
- Our point of contact is (facility and duty position of the contact)
- The event is (name or type of the major emergency or disaster)
- Impact as of (actual or predicted time)
- At (place or location)
- With (types of impacts ongoing or expected)
- Critical safety information is (any critical warnings of hazards that may impact Net members)
- Phase of operations (pre-impact deployment and population protection, response, emergency recovery, recovery)
- REACT's assigned function is (what REACT Teams are being activated to do)
- Expected duration (of the response if known)

Net member stations check in by call sign and list any traffic by precedence and destination. *Call roll in order of call sign.*

Acknowledge stations by Call Sign if no traffic, or (call sign) Copy (precedence of traffic listed)

(call sign) pass your traffic. Start with Emergency traffic. Only clear Priority when emergency traffic complete. Only clear Welfare when priority complete. Only clear Routine when welfare complete.

Any incident related Announcements?

Late check-ins or additional traffic?

Clear additional traffic by precedence as received.

If a scheduled closing time has been established: The net will remain open until (24 hour clock time + time zone).

This is (net control call sign) closing the REACT Traffic System net at (24 hour clock time + time zone). *If the net is closing temporarily for a part or a whole operational period but will reopen add:* The net will reopen at (24 hour clock time + time zone). Out.

STANDBY NET SCRIPT

- On REACT/Standby Net Zello Channel

All Stations, this is (call sign) net control calling the REACT directed Standby net

Net member stations check in:

- *As called*
- *By call sign group*
- *By area*

Acknowledging by call sign

Provide the standard net briefing. Incident net briefing follows: Have the briefing as complete notes before you start.

- The Alert Level is (insert level)
- The Net is supporting (name of supported agency or agencies)
- Our point of contact is (facility and duty position of the contact)
- The event is (name or type of the major emergency or disaster)
- Impact as of (actual or predicted time)
- At (place or location)
- With (types of impacts ongoing or expected)
- Critical safety information is (any critical warnings of hazards that may impact Net members)
- Phase of operations (pre-impact deployment and population protection, response, emergency recovery, recovery)
- REACT's assigned function is (what REACT Teams are being activated to do)
- Expected duration (of the response if known)

Next roll call at (specify time). Any station needing to close contact Net Control before closing. Out.

Acknowledge subsequent check ins and advise of the next roll call time.

When an assignment is received call the appropriate station and clear it to leave the net to the new assignment.

At next specified time: This is (call sign) net control with a roll call of stations on the (purpose or event) standby net – all report if operations normal.

Are there any additional stations joining the net?

Provide any updates to the initial briefing.

Next roll call at (specify time). Any station needing to close, contact Net Control before closing. Out.

This is (net control call sign) closing the standby net at (24 hour clock time + time zone name). Out. *If the net is closing temporarily for a part or a whole operational period but will reopen add:* The net will reopen at (24 hour clock time + time zone). Out.

COMMAND NET SCRIPT

- On REACT/Standby Net Zello Channel or radio frequency

All Stations, this is (call sign) net control calling the REACT free Command net

Net member stations check in by incident management team duty position:

Acknowledge stations by duty position call sign.

If appropriate provide the standard net briefing. Incident net briefing follows: Have the briefing as complete notes before you start.

- The Alert Level is (insert level)
- The Net is supporting (name of supported agency or agencies)
- Our point of contact is (facility and duty position of the contact)
- The event is (name or type of the major emergency or disaster)
- Impact as of (actual or predicted time)
- At (place or location)
- With (types of impacts ongoing or expected)
- Critical safety information is (any critical warnings of hazards that may impact Net members)
- Phase of operations (pre-impact deployment and population protection, response, emergency recovery, recovery)
- REACT's assigned function is (what REACT Teams are being activated to do)
- Expected duration (of the response if known)

Stations may call other duty positions as needed.

Maintain a log of key events, information, and decisions.

Acknowledge subsequent check ins and advise them to use assigned duty position call sign.

When advised by the incident management team that the net is no longer needed or will close and reopen:

This is (net control call sign) closing the standby net at (24 hour clock time + time zone name). Out.

If the net is closing temporarily for a part or a whole operational period but will reopen add: The net will reopen at (24 hour clock time + time zone). Out.

TACTICAL NET SCRIPT

- On designated REACT/Tactical Net Zello Channel or radio frequency

All Stations, this is (call sign) net control calling the REACT (*insert* event name, division, group, etc.) (free *or* directed *as required*) tactical net.

Net member stations check in by assignment tactical call sign:

Acknowledge stations by tactical call sign.

If a free net: Stations may call other stations as needed.

Maintain a log of key events, information, and decisions.

Acknowledge subsequent check ins and advise them to use assigned tactical call sign.

When advised the assignment is complete and the net is no longer needed:

This is (net control call sign) closing the (name) tactical net at (24 hour clock time + time zone name). Out.

APPENDIX 2 – EXAMPLE NET EMERGENCY OPERATIONS PLAN

REACT TRAFFIC SYSTEM EMERGENCY OPERATIONS PLAN

1 June 2018

1. This plan is activated for: major emergencies and disasters that potentially or actually impact multiple REACT Teams.
2. The Net supports:
 - REACT International and its Regions, Councils, and Teams
 - Organizations with which REACT International has Memorandums of Understanding
 - Radio Relay International
3. This plan is activated by:
 - a. Individuals who may activate the plan: Net Manager, duty Watch Officer.
 - b. How the plan is activated: radiogram to all Traffic System Stations by Radio Relay International traffic system, Winlink, e-mail, Zello REACT/Traffic System channel.
4. Available resources:
 - a. Kind and types of teams: 1 Type IV Message Team
 - b. Resources: no additional
5. Alert levels:
 - a. Alert levels are declared by: Net Manager, duty Watch Officer.
 - b. Actions taken at each Alert Level:

(1) Level 4 STANDBY: All stations check backup power, Zello application, review standard operating procedures and the Field Operations Guide, and stock of log and message forms; start to gather information on the event.

(2) Level 3 READINESS: Net Manager develops schedule for staffing operations. Normal administrative net supplemented by daily nets to test communications circuits as needed. Contact established with Radio Relay International paired Amateur Radio operators. All REACT Teams notified of current state Traffic System contacts.

(3) Level 2 LIMITED ACTIVATION: Staffing plan initiated. Traffic Net staffed for 12 hour shift daily based on the nature of the event.

(4) Level 1 FULL ACTIVATION: Traffic Net staffed for 18 hour a day operations. Standby and Command Nets staffed 0600-1800 EST/EDT if needed.

6. Radio services and frequencies and their assigned function: Primary communications will be conducted using the Zello application. Backup to Zello will be a Team Speak channel.

- Zello REACT/Traffic System channel – operation of the REACT Traffic Net
- Zello REACT/Command Net – operations of the REACT Incident Management Team
- Zello REACT/Standby Net – staging channel for REACT stations in major events

7. Length of operations the Team can support: up to 72 hours.

8. Expected duration of operations in power outage: 48 hours if Internet remains available.

9. Activation and deployment options:

a. Activate in place at home stations: yes with station locations distributed across the United States and in Trinidad and Tobago.

b. Able to deploy within jurisdiction (25 mile radius or less): no

c. Able to deploy beyond 25 mile radius: no

10. Request mutual aid: through Radio Relay International National Emergency Communications Coordinator.

11. Reporting:

a. Availability Report (ICS 213C) - <http://reactwarning.org/ics213c>: on Alert Level 4.

b. Situation Report (ICS 213E) - <http://reactwarning.org/ics213e>: daily by 1800 EDT/EST.

