Lansing Area ARPSC
Portable Operator Reference

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1. Purpose

This document combines a variety of handy reference information needed by Lansing area radio operators during public service operations. Sources include ARRL Field Service publications, QMN training documents, notes taken at the Lansing ECC, etc.

2. Contact Information

Location	Means
Lansing ECC	Phone 483-6957 Radio 146.580 simplex
Ingham County ECC	Phone ???-????
State of Michigan EOC	336-2037
NWS GRR	800-647-3836 Radio 145.270- 94.8 (callsign WX8GRR) Radio (backup) 147.160+

3. Amateur message form

Every formal radiogram message originated and handled should contain the following component parts in the order given.

I. Preamble

- A. Number, beginning with 1 each year
- B. Precedence
- C. Handling instructions (optional)
- D. Station of origin (first amateur handler)
- E. Check (number of words/groups in text only)
- F. Place of origin (not necessarily location of station of origin)

G. Time filed

H. Date

II. Address

A. Addressee's name

B. Street address

C. State or province

D. Zip or postal code

E. Telephone number

III. Text

A. Limit to 25 words if possible

B. Separate phone numbers into three groups: area code, exchange, and the rest

IV. Signature

4. Radiogram precedences

All messages handled by Amateur Radio should contain precedences−that is, an evaluation of each message's importance, made by the originating station. A precedence is an "order of handling." There are four precedences in the ARRL message form: Emergency, Priority (P), Welfare (W) and Routine (R), in that order of handling. When and as they appear on a net or any other kind of circuit, messages will be handled in this order.

EMERGENCY− Any message having life and death urgency to any person or group of persons, which is transmitted by Amateur Radio in the absence of regular commercial facilities. This include official messages of welfare agencies during emergencies requesting supplies, materials or instructions vital to relief of stricken populace in emergency areas. During normal times, it will be very rare. On CW, RTTY, AMTOR and packet this designation will always be spelled out. When in doubt, do not use this designation.

PRIORITY− Use abbreviation P on CW, RTTY, AMTOR and packet. This classification is for important messages having a specific time limit, official messages not covered in the emergency category, press dispatches and emergency-related traffic not of the utmost urgency.

WELFARE− This classification, abbreviated as W on CW, RTTY, AMTOR and packet, refers to either an inquiry as to the health and welfare of an individual in the disaster area, or an advisory from the disaster area that indicates that all is well. Welfare traffic is handled only after all emergency and priority traffic is cleared. The Red Cross equivalent to an incoming Welfare message is DWI (Disaster Welfare Inquiry).

ROUTINE− Most traffic in normal times will bear this designation. In disaster situations, traffic labeled Routine (R on CW, RTTY, AMTOR and packet) should be handled last, or not at all when circuits are busy with higher-precedence traffic.

TP− This unofficial precedence is sometimes used during drills. The meaning is "TEST PRECEDENCE". All simulation messages should be clearly marked as such; a TP precedence might not be good enough. The word "TEST" should probably appear in the message body as well.

The precedence will follow, but is not a part of the message number. For example, the message may begin with "NR 207 R" on CW, "Number Two Zero Seven, Routine" on phone.

5. Radiogram handling instructions

Handling instructions (HX) are less used but quite useful in handling messages. They serve to convey any special instructions to handling and delivering operators. This "prosign," when used, is inserted into the message preamble between the precedence and the station of origin. Its use is optional with the originating stations, but once inserted is mandatory with all relaying stations. The following definitions apply:

HXA– (Followed by number) Collect landline delivery authorized by the addressee within ... miles. (If no number, authorization is unlimited.)

HXB– (Followed by a number) Cancel message if not delivered within ... hours of filing time; service originating station.

HXC– Report time and date of delivery (TOD) to originating station.

HXD– Report to originating station the identity of station from which received, plus date and time. Report station to which relayed, plus date and time, or if delivered report date, time and method of delivery.

HXE– Delivering station get reply from addressee, originate message back.

HXF– (Followed by number) Hold delivery until ... (date).

HXG– Delivery by mail or landline toll call not required. If toll or other expense involved, cancel message and service originating station.

Example: NR 207 R HXA50 W4MLE 12...(etc.)

If more than one HX prosign is used, the can be combined if no numbers are to be inserted, otherwise the HX should be repeated thus: NR 207 R HXAC W4MLE...(etc.). On phone, use phonetics for the letter or letters following the HX, to ensure accuracy.

6. Numbered radiograms

Radiograms for emergency use	
Number	**Meaning**
ONE	Everyone safe here. Please don’t worry.
TWO	Coming home as soon as possible.

THREE	Am in _____ hospital. Receiving excellent care and recovering fine.
FOUR	Only slight property damage here. Do not be concerned about disaster reports.
FIVE	Am moving to new location. Send no further mail or communication. Will inform you of new address when relocated.
SIX	Will contact you as soon as possible.
SEVEN	Please reply by Amateur Radio through the amateur delivering this message. This is a free public service.
EIGHT	Need additional _____ mobile or portable equipment for immediate emergency use.
NINE	Additional _____ radio operators needed to assist with emergency at this location.
TEN	Please contact _____. Advise to stand by and provide further emergency information, instructions or assistance.
ELEVEN	Establish Amateur Radio emergency communications with _____ on _____ MHz.
TWELVE	Anxious to hear from you. No word in some time. Please contact me as soon as possible.
THIRTEEN	Medical emergency situation exists here.
FOURTEEN	Situation here becoming critical. Losses and damage from _____ increasing.
FIFTEEN	Please advise your condition and what is needed.
SIXTEEN	Property damage very severe in this area.
SEVENTEEN	REACT communications services also available. Establish REACT communication with _____ on channel _____.
EIGHTEEN	Please contact me as soon as possible at _____.
NINETEEN	Request health and welfare report on _____. (State name, address and telephone number.)
TWENTY	Temporarily stranded. Will need some assistance. Please contact me at _____.
TWENTY ONE	Search and Rescue assistance is needed by local authorities here. Advise availability.
TWENTY TWO	Need accurate information on the extent and type of conditions now existing at your location. Please furnish this information and reply without delay.
TWENTY THREE	Report at once the accessibility and best way to reach your location.
TWENTY FOUR	Evacuation of residents from this area urgently needed. Advise plans for help.
TWENTY FIVE	Furnish as soon as possible the weather conditions at your location.
TWENTY SIX	Help and care for evacuation of sick and injured from this location needed at once.

7. ICAO phonetic alphabet

A	Alpha	N	November
B	Bravo	O	Oscar
C	Charlie	P	Papa
D	Delta	Q	Quebec
E	Echo	R	Romeo
F	Foxtrot	S	Sierra
G	Golf	T	Tango
H	Hotel	U	Uniform
I	India	V	Victor
J	Juliette	W	Whiskey
K	Kilo	X	X-ray
L	Lima	Y	Yankee
M	Mike	Z	Zulu

8. 'QN' signals for CW nets

QNA	Answer in pre-arranged order	QNN	Net control station is _____
QNB	Act as relay between _____ & _____	QNO	Station is leaving the net
QNC	All net stations copy	QNP	Unable to copy you
QND	Net is directed (controlled by NCS)	QNQ	Change frequency to _____ and wait for _____ to finish handling traffic; send him traffic for _____
QNE	Entire net stand by	QNR	Answer and receive traffic
QNF	Net is free (not controlled)	QNT	Request permission to leave the net for _____ minutes
QNG	Take over as NCS	QNU	The net has traffic for you; stand by
QNH	Your net frequency is high	QNV	Establish contact with _____ on this frequency; if successful, move to _____ and send him traffic for _____
QNI	Net stations report in	QNW	How do I route messages for _____
QNJ	Can you copy me?	QNX	You are excused from the net
QNK	Transmit messages for _____ to _____	QNY	Shift to _____ kHz to clear traffic with _____
QNL	Your net frequency is low	QNZ	Zero beat your signal with mine
QNM	You are disrupting the net; stand by		

9. Useful frequencies

Ingham County ARPSC Frequencies			
Output	**Offset**	**PL**	**Comments**
51.700			WB8RJY Mason

145.390	-	100.0	LCDRA
146.700	-		LCDRA
146.940	-	100.0	LCDRA
145.470	-	100.0	Link system (Onandaga input)
145.470	-	97.4	Link system (Lansing input)
146.580			RACES
147.570			RACES
145.090	s		Ingham County ARPSC packet channel
145.760	s		QMN/State EOC BBS packet channel
224.980	-		LCDRA
224.320	-		Wacousta
443.700	+		WB8RJY Mason
444.925	+		KE8DR Holt
446.200	s		RACES
446.400	s		RACES

Coordination with other area groups

Output	Offset	PL	Comments
4.604	s		CAP HF net
3.663	s		MI Emergency calling frequency, CW, night
7.063	s		MI Emergency calling frequency, CW, day
3.932	s		MI Emergency calling frequency, Phone, night
7.232	s		MI Emergency calling frequency, Phone, day
47.420	s		Red Cross emergency channel
47.580	s		Red Cross transportation channel
145.130	-		Portland
146.680	-		Howell
147.020	+		Owosso
147.080	+		Charlotte
147.280	+		Jackson
147.480	s		Clinton Co.
122.900	s		(AM) CAP
143.625	s		CAP ground to ground
148.125	s		CAP ground to ground, air to ground
148.150	-4.5		CAP repeater
149.5375	s		CAP air to ground
149.995	s		CAP packet
442.400	+		Owosso
443.175	+		Jackson
443.625	+		Charlotte
444.525	+		Howell

Michigan ARPSC Nets

Net	Output	Offset	PL	Notes
Alcona County	146.900	-		
Alger County	147.270	+		Hiawatha Emg
Arenac County	145.310	-	100.0	
Bay County	145.310	-		ARC

Dickinson County	146.850	-		ARES
Five County (W-C MI)	146.740	-		ARES - Newaygo et al
Genesee County	147.260	+		GCARES tfc/trg
Gladwin County	147.180	+		
Hanson Hills	145.130	-		
Houghton	146.880	-		Cooper Country ARES
Ionia County	145.130	-		ARES
Jackson County	146.880	-	100.0	ARES
Lapeer County	146.620	-		ARES
Macomb County	147.200	+		ARES
Midland County	147.000	+		ARES
MI Third District	145.310	-		ARPSC
Muskegon County	146.820	-		ARES
Newaygo County	146.920	-	94.8	
Oakland County	147.140	+		ARPSC
St. Clair County	146.800	-		Red Cross ARS
St. Joseph County	145.310	-	94.8	ARPSA
Tuscola County	146.820	-		AR Net
Washtenaw County	145.150	-		ARES
Wayne County	145.330	-		ARES/RACES

Area Emergency Services

Channel	Output	Input	PL	Comments
Lansing Fire #1	153.770	154.325	173.8	
Lansing Fire #2	154.445	153.950	173.8	
Lansing Fire #3	153.770	153.770	173.8	
Lansing Fire #4	154.445	154.445	173.8	
State-wide fire	154.295	154.295	CSQ	
Mason Fire	155.940	155.940	103.5	(also Onandaga, Leslie)
Delhi Fire	154.430	154.430	103.5	(also Holt, Lansing Twp, Mer. Twp)
East Lansing Fire	154.100	154.100	CSQ	
Dewitt Fire	154.220	154.220	110.9	
911 Center	155.280	155.280	103.5	(also Mercy Ambulance)
Mutual aid	155.280	155.280	CSQ	
All hospitals	155.280	155.280	rx 97.4 tx 210.7	
IRMC Greenlawn	155.340	155.340	rx 97.4 tx 110.9	
IRMC Pennsylvania	155.340	155.340	rx 97.4 tx 127.3	
Sparrow	155.340	155.340	rx 97.4 tx 100.0	
St. Lawrence	155.340	155.340	rx 97.4 tx 88.5	
Weather	162.400			
Lansing Police #1	460.200	465.200	162.2	
Lansing Police #2	460.300	465.300	162.2	
Lansing Police #3	460.400	465.400	162.2	
Lansing Police #4	460.500	465.500	162.2	

Tri-County	460.050	465.050	162.2
Ingham Co. Sheriff	460.350	465.350	162.2
Lansing Twp. Police	460.475	465.475	162.2
East Lansing Police #1	460.350	465.350	162.2
East Lansing Police #2	460.450	465.450	162.2
Meridian Twp. Police	460.100	465.100	162.2
Eaton Co. Sheriff	460.425	460.425	162.2
Eaton Co. Fire	460.625	465.625	162.2
MSU Police #1	460.275	465.275	162.2
MSU Police #2	460.550	465.550	162.2
Delta Twp. Fire	460.575	465.575	DPL 654
LCC Police	461.025	466.025	162.2
GMRS #1	462.550		
GMRS #2	462.575		
Grand Ledge Fire	460.600	465.600	162.2
Lansing Police #1R	465.200	460.200	162.2
Lansing Police #2R	465.300	460.300	162.2
Lansing Police #3R	465.400	460.400	162.2
Lansing Police #4R	465.500	460.500	162.2

10. Lansing EOC operating procedures

I. All personnel shall check in and out

A. Check in and out with person in control of personnel at the EOC.

B. Let whoever is controlling the Amateur Radio Operatons know you are there or if you have to leave.

C. You work for the governmental entity in whose EOC you are located.

II. Radios

A. Make sure your radios are working.

B. Are power supplies on and working?

C. Is the antenna plugged into the radio?

D. HF radios

i. State emergency frequency is 3932 kHz.

ii. 7pm Michigan Traffic Net frequency 3952 kHz.

E. VHF radios

i. Operating frequencies of Lansing repeaters 146.940 Mhz, 146.700 Mhz, 145.390 Mhz, all minus offset.

ii. Lansing repeaters require a PL tone of 100 Hz.

iii. Simplex operations will be on 146.58 MHz.

iv. VHF packet operations will be conducted on 145.090 MHz

F. Use headphones in the EOC to reduce noise and make listening easier.

G. If using packet radio:

i. Is the computer working?
ii. Is the radio set to the proper packet frequency?
iii. Does the TNC work?
iv. Are the packet programs working?

H. You should have one person per radio and one extra for a runner.
I. The State EOC call sign is WC8EOC.

III. Equipment

A. Do you have the proper and needed supplies:
i. Paper and pencils/pens?
ii. Message forms?
iii. Maps of the city, county and state?

B. Do you have the following software:
i. Text editor for creating messages?
ii. Program for logging?

C. Paper in printers?
D. Is there a telephone available for Amateur Radio Operators

IV. Amateur Radio Operators

A. You need one operator per radio.
B. You need one additional operator to handle logging, and fill in if needed.
C. All operators will sign in, logging their name, call sign and starting date/time.
D. All operators will sign out, logging their call sign and ending date/time.
E. All operators will record on message forms all messages and reports sent or received.
F. All operators will log on log forms all messages and reports.
G. Determine as quickly as possible the duration of the operation.
i. Will you need relief operators (sleeping, eating, restroom breaks)?
ii. Do people have to go to work?

H. What facilities are available to operators:
i. Water?
ii. Food?
iii. Lavatory?
iv. A rest area?

I. Operators should remember to bring any personal needs:
i. Medical supplies?
ii. Other hygiene needs?

V. Operator Duties

A. Your job is to transmit and receive message traffic and information reports.
B. You will not give out information unless directed to do so.
C. You will handle only EMERGENCY traffic into and out of the EOC.
D. Do not get into an argument about handling traffic.

E. If there is a request for Health and Welfare traffic it shall be directed to the Red Cross or other channels/frequencies.

F. Keep all transmission short and to the point.

G. Process messages:

 i. Receive messages over the air and give them to the proper person for handling.

 ii. Accept messages for transmission from proper authorities.

 iii. Sending messages

  a. Speed is only valuable if it doesn’t impair clarity and copiability.

  b. Think about how fast another person can copy.

  c. Difficult words, acronyms, unusual spellings and mixed groups need to be spelled out phonetically.

 iv. Use of prosigns and prowords where appropriate.

 v. Use plain language wherever possible.

 vi. Use the international phonetic alphabet to spell words.

H. Logging functions for messages and other recorded details:

 i. All messages will be logged in and out of the EOC

  a. Message number if there is one.

  b. Date/time of orgination.

  c. Date/time received or sent.

  d. Call sign of station message was sent to or received from.

  e. Who message was from.

  f. Who message was to.

 ii. Record information received or events you heard:

  a. Call sign of reporting station.

  b. Date/time of report.

  c. Nature of report.

 iii. Starting time and quitting time of operators.

I. Who are you in contact with and where are they located:

 i. What is their call sign?

 ii. What governmental agency do they represent?

 iii. Where are they located?

 iv. What other amateurs are in the field?

J. Operators should know how to operate a bulletin board system.

 i. Functions.

 ii. Commands.

 iii. Message format.

 iv. How to enter a message into the system.

 v. How to get a message out of the system.

 vi. Ability to touch type is useful.

K. Conduct only necessary communications.

L. All functions will be kept to a formal nature.

VI. Messages

A. All message and reports will be emergency messages to and from the EOC.

B. All message will be on a standard message form -- either ARRL or the agency message form. Do not use small scraps of paper.

C. All messages shall be written out so they are legible.

i. Who is message from - full title and name?

ii. Who is message to - full title and name?

iii. Time the message was originated?

iv. Messages should be concise and to the point, not long winded.

v. Do not get into dissusson about wording of message.

D. All messages will be transmitted as recorded.

i. No extra words will be added to messages.

ii. No words will be deleted from message.

iii. You will not change the wording of a message.

E. All messages will have a time of origination in UTC (aka GMT, Zulu) time.

F. Record who was the receiving or transmitting station for the message.

G. All messages should be in ARRL format or the format of the sending agency.

H. All messages shall be logged in and out.

i. Time received or transmitted.

ii. Who received or transmitted the message.

iii. Record the message number, you created/originated or the number of the message received.

iv. If possible who the message was from and to.

v. If sent or received from a BBS record that call sign.

I. All messages will be give to one person for further handling.

J. Do not throw any messages away -- keep a file or place for them.

K. All transmissions will be in plain English. The use of Q or Z signals will be avoided.

L. Use the standard phonetic alphabet to spell out words.

VII. NCS DUTIES

11. Relevant emergency and traffic nets

Net	**Time (Winter)**	**Frequency**
FEMA Region 5 Emergency Net	1330Z 1st Wed/quarter	3960 kHz, 7285 kHz
Great Lakes Emergency and Traffic Net	2030 EST Dy	3932 kHz, 7232 kHz
Michigan Amateur Communications System	1100 EST Dy	3953 kHz
Michigan Amateur Communications System	1300 EST Dy	3953 kHz
Michigan Traffic Net (MITN)	1900 EST Dy	3952 kHz
QMN early	1830 EST Dy	3663 kHz, 7063 kHz, 1812 kHz
QMN late	2200 EST Dy	3663 kHz, 7063 kHz, 1812 kHz
Salvation Army Team Emergency Radio Net	1630Z Sat	7265 kHz
Salvation Army Team Emergency Radio Net	1400Z M-F	14265 kHz
UP Net	1700 EST Dy	3921 kHz
Wolverine SSB Net	1900 EST Dy	3935 kHz

12. QMN Packet Radio Network

Primary BBS	W8IHX-1	Detroit
Secondary BBS	W8IHX-3	Ann Arbor Red Cross
Digipeaters	Detroit Ann Arbor Milan Chelsea White Lake Flint	QMN-1 (W8IHX) QMN-2 QMN-3 QMN-4 QMN-5 QMN-8
Served Agencies	NWS-DTX MSP District 2 State EOC Oakland Co. EOC Washtenaw Co. EOC Wayne Co. EOC	K8DTX-5 (QMN-5) N8FZT-1 WC8EOC W8OAK N8MWD-5 WC8AAA
Frequencies	VHF HF	145.760 7072.5

13. Key FCC regulations related to emergency operations

The following segment of the FCC regulations (Title 47 USC) are drawn from the ARRL web page at *http://www2.arrl.org/field/regulations/news/part97/e.html.*

§97.401 Operation during a disaster.

(a) When normal communication systems are overloaded, damaged or disrupted because a disaster has occurred, or is likely to occur, in an area where the amateur service is regulated by the FCC, an amateur station may make transmissions necessary to meet essential communication needs and facilitate relief actions.

(b) When normal communication systems are overloaded, damaged or disrupted because a natural disaster has occurred, or is likely to occur, in an area where the amateur service is not regulated by the FCC, a station assisting in meeting essential communication needs and facilitating relief actions may do so only in accord with ITU Resolution No. 640 (Geneva, 1979). The 80 m, 75 m, 40 m, 30 m, 20 m, 17 m, 15 m, 12 m, and 2 m bands may be used for these purposes.

(c) When a disaster disrupts normal communication systems in a particular area, the FCC may declare a temporary state of communication emergency. The declaration will set forth any special conditions and special rules to be observed by stations during the communication emergency. A request for a declaration of a temporary state of emergency should be directed to the EIC in the area concerned.

(d) A station in, or within 92.6 km of, Alaska may transmit emissions J3E and R3E on the channel at 5.1675 MHz for emergency communications. The channel must be shared with stations licensed in the Alaska-private fixed service. The transmitter power must not exceed 150 W.

§97.403 Safety of life and protection of property.

No provision of these rules prevents the use by an amateur station of any means of radiocommunication at its disposal to provide essential communication needs in connection with the immediate safety of human life and immediate protection of property when normal communication systems are not available.

§97.405 Station in distress.

(a) No provision of these rules prevents the use by an amateur station in distress of any means at its disposal to attract attention, make known its condition and location, and obtain assistance.

(b) No provision of these rules prevents the use by a station, in the exceptional circumstances described in paragraph (a), of any means of radiocommunications at its disposal to assist a station in distress.

§97.407 Radio amateur civil emergency service.

(a) No station may transmit in RACES unless it is an FCC-licensed primary, club, or military recreation station and it is certified by a civil defense organization as registered with that organization, or it is an FCC-licensed RACES station. No person may be the control operator of a RACES station, or may be the control operator of an amateur station transmitting in RACES unless that person holds a FCC-issued amateur operator license and is certified by a civil defense organization as enrolled in that organization.

(b) The frequency bands and segments and emissions authorized to the control operator are available to stations transmitting communications in RACES on a shared basis with the amateur service. In the event of an emergency which necessitates the invoking of the President's War Emergency Powers under the provisions of §706 of the Communications Act of 1934, as amended, 47 U.S.C. §606, RACES stations and amateur stations participating in RACES may only transmit on the following frequency segments:

> (1) The 1800-1825 kHz, 1975-2000 kHz, 3.50-3.55 MHz, 3.93-3.98 MHz, 3.984-4.000 MHz, 7.079-7.125 MHz, 7.245-7.255 MHz, 10.10-10.15 MHz, 14.047-14.053 MHz, 14.22-14.23 MHz, 14.331-14.350 MHz, 21.047-21.053 MHz, 21.228-21.267 MHz, 28.55-28.75 MHz, 29.237-29.273 MHz, 29.45-29.65 MHz, 50.35-50.75 MHz, 52-54 MHz, 144.50-145.71 MHz, 146-148 MHz, 2390-2450 MHz segments;
>
> (2) The 1.25 m, 70 cm and 23 cm bands; and

(3) The channels at 3.997 MHz and 53.30 MHz may be used in emergency areas when required to make initial contact with a military unit and for communications with military stations on matters requiring coordination.

(c) A RACES station may only communicate with:

(1) Another RACES station;

(2) An amateur station registered with a civil defense organization;

(3) A United States Government station authorized by the responsible agency to communicate with RACES stations;

(4) A station in a service regulated by the FCC whenever such communication is authorized by the FCC.

(d) An amateur station registered with a civil defense organization may only communicate with:

(1) A RACES station licensed to the civil defense organization with which the amateur station is registered;

(2) The following stations upon authorization of the responsible civil defense official for the organization with which the amateur station is registered:

(i) A RACES station licensed to another civil defense organization;

(ii) An amateur station registered with the same or another civil defense organization;

(iii) A United States Government station authorized by the responsible agency to communicate with RACES stations; and

(iv) A station in a service regulated by the FCC whenever such communication is authorized by the FCC.

(e) All communications transmitted in RACES must be specifically authorized by the civil defense organization for the area served. Only civil defense communications of the following types may be transmitted:

(1) Messages concerning impending or actual conditions jeopardizing the public safety, or affecting the national defense or security during periods of local, regional, or national civil emergencies;

(2) Messages directly concerning the immediate safety of life of individuals, the immediate protection of property, maintenance of law and order, alleviation of human suffering and need, and the combating of armed attack or sabotage;

(3) Messages directly concerning the accumulation and dissemination of public information or instructions to the civilian population essential to the activities of the civil defense organization or other authorized governmental or relief agencies; and

(4) Communications for RACES training drills and tests necessary to ensure the establishment and maintenance of orderly and efficient operation of the RACES as ordered by the responsible civil defense organizations served. Such drills and tests may not exceed a total time of 1 hour per week. With the approval of the chief officer for emergency planning the applicable State, Commonwealth, District or territory, however, such tests and drills may be conducted for a period not to exceed 72 hours no more than twice in any calendar year.

14. Practice groups for traffic nets

1	Chemtrec
2	Hazmat
3	6th Street
4	Griffith
5	Lori
6	Laura
7	Nancy
8	Nanci
9	Wisniewski
10	Sulfur
11	Tetraflouride
12	LC50
13	Dilution
14	VHF
15	APRS
16	3663 kHz
17	Containers
18	Methyl Isocyanate
19	Motorola
20	W8IHX
21	Walters
22	6EV7
23	2N2253
24	John
25	Jon
26	SCBA
27	Dispatcher
28	Reportable Quantity
29	Stanley Wojciechowski
30	Explosives
31	DOT 1203
32	Observation
33	Vapor Pressure
34	KA8KTY
35	KC8GMT
36	250 PSI
37	PCBs
38	Polychlorinated Biphenyl
39	Emmylou Harris
40	48867
41	517-723-4978
42	313-555-1270
43	132nd Street
44	Ernesto Gonzalez
45	Cynthia D. Ziegler
46	ERV
47	SATERN
48	Surgeon
49	Frank J. Navin
50	Carl Mays
51	Pactor
52	Amtor
53	PSK 31
54	West Grand Boulevard
55	North Woodward Avenue
56	Owosso
57	Grand Marais
58	Marquette
59	Sequoia Ave
60	Precipitation
61	Barometric Pressure
62	29.91
63	EOC
64	Oxygen
65	Infectious
66	Karl F. Weihman
67	Aaron Weiss
68	5075 Lonyo Avenue
69	22345 Garvin Street
70	Christopher Ozcan
71	Raymond Packer
72	668-2953
73	2389 Tamarack
74	Matt Lessnau
75	Excavating
76	TDD
77	Thermic Syphon
78	Baker Valve
79	Diazinon
80	TACAN System
81	VHF Omni Range
82	Altimeter
83	Approximating
84	Bulletin
85	Capsized
86	Fluctuates
87	Boiler
88	Disposition
89	Dibenzoil Peroxide

15. Practice messages for traffic nets

These training texts are to be transmitted in standard radiogram format. Be sure to occasionally include an optional item in the preamble, such as handling instructions (HX-) or "Time of Origin." The exact "check" is indicated in parenthesis adjacent to the text.

An example message might be formatted as follows:

21 R W8IHX 16 ANN ARBOR MI 2330Z JUN 10

N8AHA

WHEN CHECKING INTO THE NET WITHOUT TRAFFIC STATE NO TRAFFIC ON PHONE OR QRU ON CW

JIM WB8SIW

(1) NTS PROVIDES A SYSTEM OF LAYERED NETS WHICH FACILITATE THE EXCHANGE OF TRAFFIC THROUGHOUT NORTH AMERICA X ALL NTS TRAFFIC IS HANDLED USING A STANDARD FORMAT (26)

(2) THERE ARE FIVE NTS LEVELS LOCAL SECTION REGION AREA AND TCC X LOCAL NETS TYPICALLY SERVE A METROPOLITAN AREA OR COUNTY ARES PROGRAM (23)

(3) SECTION NTS NETS TYPICALLY SERVE A STATE OR AN ARRL SECTION X THESE ARE THE MOST NUMEROUS OF NTS NETS (20)

(4) REGION NETS ACCEPT CHECK INS FROM SPECIALLY ASSIGNED REPRESENTATIVES FROM SECTION NETS X THEY FACILITATE THE EXCHANGE OF TRAFFIC THROUGHOUT A REGION OR CALL SIGN DISTRICT (26)

(5) AREA NETS ACCEPT CHECK INS FROM REGION NET LIAISON STATIONS X THEY FACILITATE THE EXCHANGE OF TRAFFIC THROUGHOUT THE EASTERN CENTRAL OR PACIFIC AREAS OF NORTH AMERICA (27)

(6) TRANS CONTINENTAL CORP OR TCC LINKS THE AREA NETS TOGETHER THROUGH HIGH SPEED POINT TO POINT CIRCUITS X THIS FACILITATES TRAFFIC FLOW ACROSS AREA BOUNDARIES (25)

(7) WHEN CHECKING INTO THE NET WITHOUT TRAFFIC STATE NO TRAFFIC ON PHONE OR QRU ON CW (16)

(8) WHEN CHECKING IN WITH TRAFFIC INDICATE THE QUANTITY AND DESTINATION X IF IT IS FOR A DESTINATION OUTSIDE THE COVERAGE OF THE NET STATE THROUGH (25)

(9) BE SURE TO UTILIZE THE CORRECT PHONETIC ALPHABET WHEN CHECKING INTO A PHONE NET X ALWAYS STATE YOUR CALL SIGN PHONETICALLY (21)

(10) ON CW BE SURE TO TRANSMIT NO FASTER THAN YOU ARE ABLE TO COPY X USE THE KEY, KEYER OR KEYBOARD THAT YOU ARE MOST COMFORTABLE WITH (27)

(11) THE FOLLOWING TRAINING MESSAGES WILL COVER IN DETAIL THE NTS RADIOGRAM FORMAT (12)

(12) THE MESSAGE NUMBER SHOULD BEGIN WITH THE NUMERAL ONE X ASSIGN A NEW NUMBER TO EACH MESSAGE X AVOID LARGE NUMBERS (21)

(13) THE PRECEDENCE INDICATES THE IMPORTANCE OF THE MESSAGE X IT IS ASSIGNED AT THE ORIGINATING STATION AND CAN NOT BE CHANGED (21)

(14) IN ORDER OF IMPORTANCE THE PRECEDENCES ARE EMERGENCY PRIORITY WELFARE AND ROUTINE X SEE THE ARRL PINK CARD FOR MORE DETAILS (21)

(15) THE STATION OF ORIGIN IS THE CALL SIGN OF THE FIRST PERSON TO PLACE THE MESSAGE ON AIR X IT IS NOT THE CALL SIGN OF THE PERSON WHO DRAFTS THE MESSAGE (32)

(16) HANDLING INSTRUCTIONS ARE OPTIONAL X A COMPLETE LIST OF HANDLING INSTRUCTIONS ARE AVAILABLE ON THE PINK CARD ARRL FORM FSD-218 (20)

(17) THE CHECK IS A COUNT OF THE NUMBER OF WORDS OR GROUPS IN THE TEXT X IT DOES NOT INCLUDE THE ADDRESS OR SIGNATURE (24)

(18) MIXED GROUPS AND GROUPS OF FIGURES ARE COUNTED AS ONE X FOR EXAMPLE FSD218 COUNTS AS ONE GROUP (18)

(19) THE PLACE OF ORIGIN IS THE LOCATION OF THE INDIVIDUAL WHOSE NAME APPEARS AS THE SIGNATURE X IT IS NOT THE LOCATION OF THE STATION OF ORIGIN (27)

(20) THE TIME OF ORIGIN IS OPTIONAL X IT IS ALWAYS EXPRESSED IN GMT/UTC (13)

(21) THE DATE OF ORIGIN IS EXPRESSED IN THE FORM OF A THREE LETTER MONTH AND DAY FOR EXAMPLE AUG 23 X DO NOT INCLUDE THE YEAR (26)

(22) REMEMBER THAT A NEW RADIO DAY STARTS AT 0001 UTC X RADIOGRAMS ORIGINATED AFTER 7PM EST MUST INDICATE TOMORROWS DATE (20)

(23) THE ADDRESS SHOULD BE AS COMPLETE AS POSSIBLE X INCLUDE THE TELEPHONE NUMBER WHEN AVAILABLE (15)

(24) THE PORTION OF THE MESSAGE WHICH INCLUDES THE MESSAGE NUMBER THROUGH ADDRESS IS CALLED THE PREAMBLE X IT IS SEPARATED FROM THE TEXT BY THE PROSIGN BREAK (27)

(25) THE TEXT SHOULD BE LIMITED TO 25 GROUPS WHENEVER POSSIBLE X THERE SHOULD BE NO PUNCTUATION WITH THE EXCEPTION OF THE XRAY WHICH REPRESENTS A PERIOD (26)

(26) THE TEXT IS SEPARATED FROM THE SIGNATURE BY ANOTHER BREAK (10)

(27) WHEN AN OPERATOR ON PHONE SAYS BREAK HE WILL UNKEY HIS MIC AND LISTEN FOR FILLS X IF YOU DO NOT REQUIRE FILLS REMAIN SILENT (25)

(28) WHEN ACTIVE ON CW NETS TRY TO EQUIP YOUR STATION FOR FULL BREAK IN X QSK SIGNIFICANTLY IMPROVES TRAFFIC HANDLING EFFICIENCY (21)

(29) THE PROWORD OVER MEANS A REPLY OR FURTHER COMMUNICATIONS IS EXPECTED X OUT MEANS NO REPLY IS EXPECTED X OUT IS LIKE HANGING UP THE PHONE (26)

(30) CW OPERATORS SHOULD SIMPLY STATE QSL TO ACKNOWLEDGE RECEIPT OF A MESSAGE (12)

(31) WHEN REQUESTING FILLS ON PHONE USE THE PHRASE SAY AGAIN FOLLOWED BY WORD BEFORE WORD AFTER OR THE OTHER STANDARD PHRASES X SEE THE MICHIGAN NET PUBLIC SERVICE COMMUNICATIONS

HANDBOOK FOR MORE DETAILS (33)

(32) WHEN REQUESTING FILLS ON CW TRANSMIT THE INTERROGATORY FOLLOWED BY WA WB OR BN FOR WORD AFTER WORD BEFORE OR BETWEEN (21)

(33) WHEN RESPONDING TO A FILL REQUEST REPEAT THE FILL REQUEST FOLLOWED BY THE MISSING INFORMATION (15)

(34) WHENEVER POSSIBLE TRAFFIC SHOULD BE CLEARED OFF OF THE MAIN NET FREQUENCY X BE SURE TO LET NET CONTROL KNOW WHEN YOUVE RETURNED (23)

(35) ALWAYS COMPLY IMMEDIATELY WITH THE INSTRUCTIONS OF NCS X DO NOT TRANSMIT WITHOUT HIS/HER PERMISSION (15)

(36) NEVER LEAVE THE NET WITHOUT NOTIFYING NCS (7)

(37) IF YOU MUST LEAVE THE NET FOR A SHORT TIME LET NCS KNOW HOW LONG YOU WILL BE GONE X USE THE QNT SIGNAL ON CW NETS (27)

(38) WHEN TRANSMITTING TRAFFIC IMAGINE YOURSELF WRITING IT BY HAND AS YOU SPEAK X THIS WILL HELP YOU TRANSMIT AT SUCH A SPEED THAT THE RECEIVING OPERATOR CAN KEEP UP (29)

(39) WHEN TRANSMITTING DIFFICULT NAMES OR WORDS ON PHONE PRONOUNCE THE WORD STATE I SPELL AND FOLLOW BY SPELLING THE WORD PHONETICALLY X ALWAYS USE ITU/ICAO PHONETIC ALPHABET (27)

(40) ON PHONE PRECEDE GROUPS OF FIGURES SUCH AS TELEPHONE NUMBERS AND ZIP CODES WITH THE PHRASE FIGURES (17)

(41) ON PHONE PRECEDE MIXED GROUPS OF LETTERS AND FIGURES WITH THE PHRASE I SPELL (14)

(42) ON PHONE THERE ARE NO SUCH EXPRESSIONS OR PROWORDS AS MIXED GROUPS PHONE WITH AREA CODE OR COMMON SPELLING (19)

(43) WHEN CHECKING INTO A PHONE NET STATE THIS IS FOLLOWED BY A PAUSE AND THEN YOUR CALL SIGN PHONETICALLY X THIS PREVENTS DOUBLES (23)

(44) EQUIP YOUR STATION WITH EMERGENCY POWER X REGISTER WITH YOUR LOCAL ARES/RACES GROUPS (13)

(45) PARTICIPATE IN THE QMN/NWS RAIN GAUGE NETWORK WHENEVER POSSIBLE (9)

(46) LET YOUR LOCAL EMERGENCY COORDINATOR KNOW THAT YOU ARE ACTIVE ON NTS NETS X IF YOU DON’T HAVE AN EC WHY NOT CONSIDER TAKING ON THE CHALLENGE (27)

(47) ARL NUMBERED RADIOGRAMS ARE PREFORMATTED TEXTS WHICH ALLOW COMMON PHRASES TO BE TRANSMITTED QUICKLY (14)

(48) WHEN INCLUDING AN ARL NUMBERED RADIOGRAM TEXT IN THE MESSAGE BE SURE TO PRECEDE THE CHECK COUNT WITH THE LETTERS ARL (21)

(49) THE CHECK SHOULD REFLECT THE NUMBER OF GROUPS ACTUALLY TRANSMITED NOT THE NUMBER OF WORDS IN AN ARL RADIOGRAM TEXT X FOR EXAMPLE ARL ONE HAS A CHECK OF TWO (30)

(50) MORE THAN ONE ARL NUMBERED RADIOGRAM TEXT MAY BE INCLUDED IN A MESSAGE X BE SURE TO FILL IN THE BLANKS AFTER EACH ARL NUMBER (25)

(51) THE SIGNATURE MAY INCLUDE TELEPHONE NUMBERS OR ADDRESSES (8)

(52) ON CW SEPARATE EACH LINE OF THE ADDRESS OR SIGNATURE WITH THE PROSIGN AA WHICH IS THE AMERICAN MORSE COMMA (20)

(53) ON CW USE THE DOUBLE DASH OR BT AS THE PROSIGN FOR BREAK BETWEEN THE PREAMBLE AND TEXT AS WELL AS THE TEXT AND SIGNATURE (25)

(54) CW NETS ARE IDEAL FOR QRP MOBILE OR EMERGENCY STATIONS X LEARN CW TRAFFIC HANDLING FOR MAXIMUM EMERGENCY PREPAREDNESS (19)

(55) WHEN CONDITIONS ARE POOR A CW NET WILL OFTEN HANDLE TRAFFIC EASILY WHEN PHONE NETS ARE STRUGGLING (17)

(56) WELFARE TRAFFIC REFLECTS THE CONDITION OR WELL BEING OF INDIVIDUALS IN A DISASTER AREA X PLEASE TRY TO USE ARL NUMBERED RADIOGRAM TEXTS FOR ALL WELFARE TRAFFIC (27)

(57) PRIORITY TRAFFIC SHOULD ALWAYS BE HANDLED BEFORE WELFARE OR ROUTINE TRAFFIC (11)

(58) THE PRECEDENCE EMERGENCY IS ALWAYS SPELLED OUT ON CW X EMERGENCY MESSAGES SHOULD GET OFF AT THE FIRST ACCESS TO COMMERCIAL OR GOVERNMENT PHONE OR TELEGRAPH SERVICE (27)

(59) DO NOT HOLD ROUTINE TRAFFIC FOR LONGER THAN 48 HOURS X IF UNDELIVERABLE ORIGINATE A SERVICE MESSAGE BACK TO THE ORIGINATING STATION OR MAIL THE MESSAGE DIRECTLY TO THE ADDRESSEE (30)

(60) NEVER FAIL TO DELIVER OR SERVICE BACK AN NTS RADIOGRAM (10)

(61) BOOK TRAFFIC IS ANY SET OF MESSAGES HAVING A COMMON TEXT X THE COMMON PARTS ARE TRANSMITTED FIRST FOLLOWED BY THOSE THAT DIFFER X EACH PORTION IS SEPARATED BY A BREAK (31)

(62) BE SURE TO REPORT YOUR MONTHLY TRAFFIC TOTAL TO THE ARRL SECTION MANAGER AT THE END OF THE MONTH X REPORTS ARE DUE BY THE 5TH (26)

(63) PARTICIPATE IN THE LEAGUES PSHR PROGRAM X SEND YOUR MONTHLY PSHR REPORT TO THE SECTION TRAFFIC MANAGER X DETAILS IN QST PUBLIC SERVICE COLUMN (24)

(64) NTS MESSAGE FORMAT AND PROCEDURES IMPROVE THE ACCURACY AND EFFICIENCY OF DISASTER COMMUNICATIONS (13)

(65) QMN RAIN GAUGE REPORTS ARE TRANSMITTED ONLY WHEN MEASURABLE PRECIPITATION OCCURS (11)

(66) SPECIAL EMERGENCY NETS MAY BE HELD DURING MAJOR SNOW STORMS FLOODING OR DURING SEVERE THUNDERSTORM EVENTS (16)

(67) WHEN CAMPING OR HIKING TAKE ALONG A LOW POWER BATTERY OPERATED TRANSCEIVER X USE NTS TO KEEP IN TOUCH (19)

(68) TAKE FEMA INDEPENDENT STUDY COURSE IS2 X AVAILABLE FROM YOUR EMERGENCY MANAGER OR RACES OFFICER (15)

(69) TAKE A BASIC AND ADVANCED SKYWARN CLASS X CHECK THE QMN WEB PAGE FOR A STATEWIDE SCHEDULE OF

CLASSES (19)

(70) REGISTER WITH SATERN THE SALVATION ARMY TEAM EMERGENCY RADIO NETWORK X DETAILS ON QMN WEB PAGE (16)

(71) TAKE RED CROSS COURSE INTRODUCTION TO DISASTER SERVICES X REGISTER FOR CLASS AT LOCAL CHAPTER (15)

(72) PREPARE A JUMP KIT WITH PORTABLE TWO METER RIG MAG MOUNT ANTENNA SPARE BATTERIES AND OTHER ACCESSORIES FOR EMERGENCY RESPONSE (20)

(73) DEVELOP PORTABLE HF CAPABILITY FOR EMERGENCY RESPONSE (7)

(74) TRAIN A FRIEND TO ASSIST WITH REPRESENTING YOUR AREA ON NTS NETS (12)

(75) A DIVERSITY OF MODES AND CAPABILITIES IS ESSENTIAL TO A RELIABLE EMERGENCY COMMUNICATIONS PROGRAM (14)

16. ARRL DEC / State Police Districts