



Annex D

MICHIGAN NET / NATIONAL WEATHER SERVICE REPORTING PROCEDURES (Rev. 23 Aug. 2004)

I Basis and Purpose:

The Michigan Net (QMN) – National Weather Service Rain Gauge Network has been developed to provide mutual benefits for both organizations. In addition to providing the Michigan Net with meaningful traffic and training opportunities, the National Weather Service may utilize the data collected for a wide variety of purposes including improved forecasts, warnings, and on-going research.

Unlike random reports received via such public resources as the Internet, the use of Amateur Radio networks insures a high level of quality control and access to trained personnel. In addition, Amateur Radio networks, such as QMN, offer access to highly survivable communications capabilities for use during disaster situations.

II How to enroll in the program:

Upon completing the attached registration form (entitled “Request to Participate), participating stations will be provided with a rain gauge by the National Weather Service or may supply their own provided it’s of comparable accuracy.

Members must be able to operate on the QMN Net or one of the alternative networks noted elsewhere in this document. Individuals without this capability may arrange for a member station capable of operating on one of the designated networks to collect and forward his/her report.

III Procedures:

- Routine precipitation measurements should be taken between 7:00 PM and 7:30 PM Eastern Time in advance of the Net. Messages will be transmitted only when precipitation has occurred within the last twenty-four hours. In other words, if there is no rain or snow it is unnecessary to transmit a report.
- All precipitation and storm damage reports will be transmitted utilizing the standard NTS message format, regardless of the mode utilized.

IV Net Times and Frequencies:

- Whenever possible, reports shall be transmitted on the QMN Net. Alternative methods for originating reports include the MITN SSB Net, and the QMN Packet Radio Network. Please make a note of the following frequencies:

1. ***QMN Net:*** 3663 kHz* 7:30 PM Eastern Time
2. MITN (SSB): 3952 kHz 7:00 PM Eastern Time
3. QMN Packet 145.760 mHz Post to W8IHX-1 or W8IHX-8 BBS****

* Alternate frequencies for QMN are 7068 kHz and 1812 kHz.

V Message Format:

- Message format: All reports will be transmitted using the standard NTS radiogram format. The message will include the time of origin in UTC, indicating the *time of observation*.
- The NTS message preamble will consist of the following
 - Message Number
 - Precedence
 - Station of Origin
 - Group Count (“check”)
 - Place of Origin (City or town in which observer is located – *this may be different than that indicated in your mailing address*)
 - Time of Origin (in UTC)
 - Date of Origin (in UTC)
- The address will consist of the abbreviation “NWS” followed by the appropriate three-letter code representing the NWS office under whose jurisdiction the reporting station falls (CWA).
- The text will consist of the County in which the reporting station is located followed by the precipitation type, and the amount. Precipitation amounts will be expressed in either three or four digits with an imaginary decimal point (not transmitted) ahead of the last two digits. In other words...
 - 0.07 inches of rain transmitted as 007
 - 0.25 inches of rain transmitted as 025
 - 3.24 inches of rain transmitted as 324
 - 8.25 inches of snow transmitted as 825

VI Routine Rainfall Reports:

- An example of a routine rainfall report is shown below. Please note that the message indicates the amount of rain, which has fallen in the past 24 hours ending at 2330Z or 7:30 PM EDT. Had Daylight time not been in place, the UTC time would have been 0030Z on May 25, because the new radio day begins at 0001Z. Also, note that the observation was made at Highland Park, in Wayne County.

*105 R W8ZZ 3 HIGHLAND PARK MI 2330Z MAY 24
NWS-DTX*

WAYNE RAIN 007

DARR

Note: Your last name or call sign will serve as signature.

VII Snowfall Reports:

- Routine snowfall reports should indicate both the amount of snow, which has fallen within the past 24 hours as well as the total amount of snow currently on the ground. For example; if 6 inches of new snow has fallen within the past 24-hours atop 10 inches of snow that is currently on the ground, the message would be:

*106 R W8ZZ 3 HIGHLAND PARK MI 0030Z DEC 24
NWS-DTX*

WAYNE SNOW 600/1600

DARR

- In some cases, an observer may experience *mixed* precipitation (i.e. rain and snow), particularly during the early or late winter months. In this case, report the precipitation as “mixed” and provide the liquid (melted) equivalent. For example:

*107 R W8ZZ 3 HIGHLAND PARK MI 0030Z DEC 25
NWS-DTX*

WAYNE MIXED 029

DARR

Note: It is important to maintain the exact message format as the message format is automatically read and converted to a NOAA Weather Wire Service product by computer.

VIII Net Procedures:

- When checking-in to the QMN radiotelegraph or packet networks, reports should be listed using a format such as “**QTC NWS-1**” (“1” reflecting the quantity of messages posted. Reports listed on nets other than the QMN CW or packet radio net should be listed as “**QTC QMN-1.**”
- A National Weather Service representative, will check-in to the QMN CW Net. Traffic listed on MITN will be forwarded to either the QMN CW Net or transferred to the W8IHX-8 Packet Radio BBS.
- Net Control Stations should endeavor to clear the NWS traffic as quickly as possible. Due to the potential for a large volume of messages during significant weather events, the assigned NWS representative should acknowledge receipt of messages quickly with as little language as possible.
- Those stations assigned as National Weather Service Liaisons will be provided with special instructions outlining the procedures for transmitting reports to the National Weather Service.

EMERGENCY PROCEDURES

IX Winter Weather Emergencies:

When severe winter weather is anticipated for a portion of Michigan, special QMN net sessions may be scheduled to facilitate the reporting of 3, 6, or 12-hour snowfall amounts to the National Weather Service. The reporting period will depend on the severity of the event and will be at the discretion of the QMN General Manager upon consultation with the National Weather Service. The types of winter weather warnings for which QMN may be activated include:

Snow Advisory: A low-pressure system which produces snow (average of forecast range) greater than 3 inches, but less than Winter Storm Warning criteria

Winter Storm Warning: A winter storm capable of producing the following snowfall amounts is imminent:

Lower Michigan: 6 or more inches in 12 hours or
8 or more inches in 24 hours.

Upper Michigan: 8 or more inches in 12 hours or
10 or more inches in 24 hours

Blizzard Warning: Sustained wind or frequent gusts to 35 mph or more producing considerable falling and/or blowing snow reducing visibility frequently to less than ¼ mile. Duration of the event will be 3 hours or longer.

During these situations, the following procedures will apply:

- If possible, the schedule of net sessions will be announced in advance through a “QNC” bulletin during a routine net session. This bulletin will also be posted to:
 - W8IHX-1 BBS at Detroit
 - W8IHX-8 BBS at Allegan

If this is not possible, net members may be notified via telephone, pager, e-mail or similar method.

- Net members are encouraged to purchase a NOAA “weather alert” radio, which automatically sounds an alarm when a severe weather event is imminent. When severe winter weather is forecast for your area, monitor upcoming QMN sessions for appropriate bulletins.
- If heavy snowfall has already begun in your area, and you have knowledge that a winter storm alert has been issued, please take the following steps:
 - Monitor the primary QMN frequency (3663 KHz) for five minutes *at the top of each hour* for an emergency activation or bulletins.
 - If conditions are such that the primary frequency is unusable, monitor the secondary QMN frequency (7063 or 1812 KHz) for five minutes *at the bottom of each hour* for an emergency activation or appropriate bulletins.
- Snowfall measurements will be requested for 3, 6, or 12-hour periods, depending on the severity of the winter storm event. The amount transmitted to the NWS during each time-period should reflect the amount of snow, which has fallen during that time period, the amount of snow on the ground, and the total amount of snow, which has fallen since the storm commenced. For example:

*221 P W8IHX 5 WAYNE MI 1400Z NOV 26
NWS-DTX*

WAYNE 3 HOUR SNOW 420 / 920 /620

MEYER

(4.20 inches has fallen in the past three hours; 9.20 inches are on the ground; and 6.20 inches have fallen since the storm began)

229 P WX8Y 5 BERRIEN SPRINGS MI 1700Z JAN 27
NWS-IWX

BERRIEN 6 HOUR SNOW 575 /1210 / 910

WX8Y

(5.75 inches has fallen in the past six hours; 12.10 inches are on the ground; 9.10 inches have fallen since the storm began)

- Depending on the reporting sequence, routine 24-hour reports may still be transmitted on the early net session per standard operating procedures, even if an emergency activation is still in effect.

X Heavy Rainfall / Flooding Emergencies:

When significant Flooding or Flash Floods are expected or occurring, it may be necessary to activate special net sessions. The procedures for these emergencies are:

- The schedule of net sessions will be announced in the same manner as provided for snow emergency nets (See Section IX).
- Unlike snowfall updates, rainfall updates will reflect the total amount of precipitation, which has fallen between 7:30 PM the previous day and the time of observation. *Remember!* Do not empty the rain gauge during this 24-hour period since the next 7:30 PM report must reflect the entire 24-hour amount.

A typical emergency rainfall update format is:

131 P W8ZZ 4 HIGHLAND PARK MI 1200Z JUL 4
NWS-DTX

WAYNE RAIN UPDATE 280

DARR

(This message indicates that 2.80 inches of rain has fallen since 2330z yesterday (730 PM on July 3)).

**MICHIGAN NET – NATIONAL WEATHER SERVICE RAIN GAUGE
NETWORK**

Request to Participate

Name: _____ Call: _____

Address: _____ Date: _____

County: _____

Nearest City: _____

Geodetic Coordinates: N. Lat: ____ deg ____ min ____ sec

W Lon: ____ deg ____ min ____ sec

What NWS Area are you in ? DTX GRR APX MQT IWX

(circle one)

Telephone: _____

Can the NWS call you at the above number for emergency reports? YES NO

If so, at what times are phone call permissible? _____

Have you had Basic Skywarn Training YES NO

Have you had Advanced Skywarn Training YES NO

Do you regularly participate in a Skywarn Program YES NO

Are you a member of an ARES or RACES Program YES NO

Note: Reports are transmitted on the Early Net when measurable precipitation occurs.
Updates or late reports are transmitted on the Late Net.

Return completed form to: Michigan Net – QMN, Inc.
P.O. Box 457
Allegan, MI. 49010-0457

Rain Gauge Placement and Snow Fall Measurement

XI Placement of Rain Gauge:

- Ideally the rain gauge should be placed on a post in a relatively clear area with no obstructions over 45 degrees above the horizon in any direction. Recognizing that this is not always possible, please select the best possible location, which is convenient and best meets these criteria.
- Obstructions, which shield the gauge at low levels, (only slightly higher than the gauge) may serve to break the wind and provide more accurate readings (hedgerows, fences, etc.).
- Locations such as utility poles, sides of buildings, and so forth are not suitable locations for rain gauge placement

XII Care of Rain Gauge:

- The plastic “wedge” type gauge is subject to damage from freezing water within the gauge. Please keep this type of gauge inside during periods of snow or freezing weather. Cylindrical “all-seasons” gauges, based on the pattern of the standard 8-inch government gauge may be left outside provided the funnel and cylinder are removed.
- If the plastic yellows or you wish to clean the gauge, a solution of bleach and water will serve nicely. Let the gauge soak overnight if necessary.
- Round cylindrical “all weather” gauges may be used throughout the year. These are now standard for the QMN Network. In the winter, the center cylinder and funnel should be removed. A snowfall sample can then be collected and melted to provide the liquid equivalent data. The process is identical to the method described for those stations equipped with the “8-inch government gauge” as shown below.

XIII Snow Fall Reporting:

- Snowfall depth is typically measured at several locations using a yardstick or ruler. Choose locations that are generally free of drifting and appear somewhat consistent with respect to snow depth. As in the case of the rain gauge, areas shielded from wind tend to be most suitable. Locations protected from wind by fence rows, shrubs, or similar features may offer the best representative snowfall.

- When new snow falls upon previously accumulated snow, it is typically measured on a moveable surface, or a surface that can be cleaned-off since the last precipitation event. Examples include picnic tables, cars, or a snowboard built specifically for that purpose. Plastic cutting boards available at kitchen supply stores make an excellent snowboard. Be sure to mark the location with a flag, post, or other marker!

XIV How to Measure Snow:

- Snow Depth is measured by taking three to five samples of snow depth and deriving the average value. Use this value when reporting snowfall via QMN. For example:

$$\begin{array}{r}
 6.5 \text{ inches} \\
 5.5 \\
 6.0 \\
 + 5.0 \\
 \hline
 23.0 \text{ divided by } 4 = 5.75 \text{ inches (or "575" on your message form)}
 \end{array}$$

If snow is already on the ground, utilize your snowboard or clear off a suitable surface at which new snowfall can be measured. Be certain to mark its location in such a way that you can find it after new snow has fallen.

Measure both the new snow, which has fallen as well as the total amount of snow on the ground at the time of measurement. For example:

If 6 inches of new snow falls atop 10 inches, which were on the ground due to previous snowfalls, the message form would read 600/1600 or “6 inches of snow in the past 24 hours, a total of 16 inches currently on the ground.”

Accuracy

Snow can typically be measured to the nearest quarter inch, however, if possible, please try to measure snow to one tenth of an inch for greater accuracy.

XV Special Instructions for Stations Equipped with 8” US Government Gauge:

Stations equipped with the standard 8” government gauge or the cylindrical “all seasons gauge” are asked to report the liquid equivalent of snowfall in hundredths of an inch in addition to the standard information. This is done by melting the snow collected within the outer container and measuring it with the internal funnel and cylinder assembly. Stations equipped with the clear, plastic cylindrical gauges are encouraged to report the liquid-equivalent as well.

The typical method of melting the snowfall sample follows:

- Add a pre-measured quantity of hot water to the snowfall sample contained in the outer cylinder in order to quickly melt the snow. Hot tap water is usually adequate for this purpose.
- Pour the melted snowfall sample and melt water into the funnel and internal measuring cylinder. Note the total amount of liquid measured in hundredths of an inch.
- Subtract the original amount of hot water, which was added to the snowfall sample from the total.
- The difference measured in hundredths of an inch is the liquid equivalent of snow.

The following example is typical of the message as transmitted by those stations equipped with the standard 8-inch government gauge:

*221 R KB8HGM 6 DEARBORN MI 0030Z JAN 14
NWS-DTX*

WAYNE SNOW 275/600 LIQUID 030

TRAVIS

- *This message states that 2.75 inches of snow fell in the past 24 hours ending at 7:30 PM (0030Z). 6.00 inches of snow are currently on the ground. The liquid equivalent of the snow, which fell in the past 24 hours, is 0.30 inches.*

XVI Additional Operational Notes:

1. Occasional confusion arises with respect to the “Place of Origin” (i.e. location of observation). This should reflect the *physical location* of the rain gauge, **not** a mailing address. For example, one may live in an unincorporated township, yet have an official mailing address, which indicates a city some miles away. Please utilize the political jurisdiction.

Example: Don MacPhee (AA8PI) lives in Alamo Township approximately 10 miles from Kalamazoo, yet he has a Kalamazoo postal address. Therefore, he utilizes Alamo Township as his “place of origin.”

2. When transmitting messages via packet radio, please utilize the “ST” command. This command permits a third party to access the message for relay / delivery when necessary. When prompted at the “subject” line, please state “QTC 1 R NWS” or equivalent.

SAMPLE NWS MESSAGES

- 1) 24-hour precipitation (rain) recorded at 7:30 PM EDT and reported on the Early or Late Net:

**72 R WB8SIW 3 YPSILANTI MI 2330Z OCT 3
NWS-DTX**

WASHTENAW RAIN 007

WADES

- 0.07 inches of rain fell in the previous 24 hours ending at 2330Z (7:30 PM) on Oct. 3.

- 2) 24-hour precipitation (snow) recorded at 7:30 PM EST and reported on the Early/Late Net:

**22 R K8KIR 3 WETMORE MI 0030Z DEC 22
NWS-DTX**

ALGER SNOW 300/300

K8KIR

- 3.00 inches of snow recorded at 7:30-PM and reported on the Early Net. No snow was previously on the ground, so the total depth is also 3.00 inches.

- 3) Emergency three hour snow update transmitted on an emergency net at 10 AM EST:

**37 P W8IHX 5 GRAND RAPIDS MI 1500Z JAN 27
NWS-GRR**

KENT 3 HOUR SNOW 0700 / 2120 / 1460

WALTERS

- This 3 hour emergency snow report indicates that 7.00 inches of snow fell in the past three hours. 21.20 inches are on the ground. Total snowfall from this storm is 14.60 inches.

- 4) Emergency rainfall update transmitted on the Late Net:

**76 R WB8SIW 4 YPSILANTI MI 0200Z OCT 3
NWS-DTX**

WASHTENAW RAIN UPDATE 150

WADES

- This update report indicates an additional 1.50 inches of rain has fallen since the 7:30 PM EDT observation (2330Z Oct. 2). Also, note that Daylight Savings Time is in effect. Therefore, the Date-time Group reflects 0200Z at 10 PM local time.
- 5) Routine snowfall reported by a station equipped with a Standard 8-inch Government Gauge or an all-weather cylindrical plastic gauge:

**112 R N8TDE 5 ALLEN PARK MI 0030Z NOV 13
NWS-DTX**

WAYNE SNOW 670/670 LIQUID 074

N8TDE

- This routine report indicates that 6.70 inches of snow fell in the past 24 hours ending at 7:30 PM local time. The liquid equivalent of this precipitation is 0.74 inches. 6.70 inches of snow was on the ground at the time of observation.
- 6) Update report transmitted during an emergency net session at 8AM:

**107 R W8ZZ 4 HIGHLAND PARK MI 1300Z OCT 7
NWS-DTX**

WAYNE RAIN UPDATE 230

DARR

- 2.30 inches of rain have fallen since 7:30PM yesterday evening. An emergency net was scheduled for 8AM(1300Z). The 0030Z report will reflect the entire 24-hour period. Therefore, Mr. Darr would **not** empty the gauge after taking this reading!

INSTRUCTIONS FOR TRANSMITTING SEVERE WEATHER DAMAGE REPORTS

I Introduction:

QMN Stations are encouraged to transmit severe weather damage reports after significant severe thunderstorm, high-wind, flooding, or similar events. These reports will be used for verification of warning purposes only and may be transmitted during any net session within 24-hours after the event. They are not a substitute for operational reports transmitted during local Skywarn Net activations.

II Message Format:

The message format will be the standard NTS radiogram format. The criteria for formatting the message follows:

- **Precedence:** The precedence will be routine unless the message is transmitted in real-time, in the absence of other communications facilities.
- **Place of Origin:** The place of origin will reflect *the location where the storm damage occurred*, not the location of the originating station.
- **Date-Time Group:** The date-time group will reflect the date and time at which the damage occurred in UTC. This will prevent confusion should transmission of the report be delayed into the next radio-day. The date and time at which the damage occurred will also be stated at the end of the text in either local or UTC time (see example).
- **Address:** The address should be “NWS” followed by the three-letter NWS office designator representing the area where the damage occurred. For example, if a report reflects damage which occurred in Wayne County, the address would be NWS-DTX.
- **Text:** The text should be limited to 25 words or less whenever possible. As in the case of rain gauge reports, severe weather damage reports will begin with the name of the county in which damage occurred. The text will end with the location and time at which the damage occurred. For example:

*WASHTENAW COUNTY X SEVERAL LARGE TREES DOWN BARN
DESTROYED NEAR CLARK AND PROSPECT ROADS AT 447PM EDT*

- **Signature:** The signature can be your last name or call sign or, if the report is being transmitted on behalf of a third party such as a fire, police, or emergency management department, the last name and title of the originating official.

III Sources of Information:

Because most reports are informational rather than operational in nature, the source of information may be other than the originating operator provided the source is considered reliable. Some examples of possible sources for severe weather damage reports include:

- ARES/RACES Skywarn Networks
- Emergency Management Offices
- Local Police or Fire Departments
- Actual Observation (by the originating operator)

ARES Groups may want to dispatch a storm damage survey crew after a Skywarn Net to identify uprooted trees, building damage, or other significant storm impact for warning verification purposes. This data can then be transmitted to a QMN-NWS liaison station for compilation and transmission to NWS.

Sample Messages:

*221 R WB8SIW 14 SUPERIOR TWP MI 1957Z JUL 2
NWS-DTX*

*WASHTENAW X LARGE TREES 2 FOOT DIAMETER DOWN THREE HOUSE
TRAILERS DESTROYED SUPERIOR TWP AT 357PM EDT*

WADES

*224 R W8IHX 12 CUSTER TWP MI 2022Z JUL 2
NWS-DTX*

*MONROE X POSSIBLE TORNADO DESTROYED 5 HOMES NEAR HWY M50
AND HARRIS ROAD AT 422PM EDT*

*YUDASZ
EMD COORDINATOR*

Remember! Accuracy and brevity are extremely important!

When checking-in to QMN, list all NWS traffic, whether rain gauge reports or severe weather damage reports, as “QTC NWS-___”

Packet Radio Procedures:

The *Michigan Net* maintains a VHF/HF Packet Radio system dedicated to Emergency and Public Service Communications. Those stations located within the range of this network may report precipitation directly to the National Weather Service via Packet Radio. The following guidelines pertain to the use of this Network for reporting “Four Seasons” observations:

- All QMN Standard Operating Procedures will apply to the use of this network. Both routine as well as emergency precipitation reports will be transmitted using standard NTS message format *without* exception.
- As outlined in the previous portions of the document, routine observations will be taken at approximately 6:30 PM local time. They may then be transmitted to the National Weather Service via one of two QMN Packet Radio BBS systems.
- Stations may post routine reports or emergency reports to any one of the following BBS systems:

W8IHX-1	(QMN-1)	Detroit	145.760 mHz
W8IHX-8*	(QMN-6)	Allegan	145.760 mHz

*Primary system. Please post here first unless unavailable.

- Please use the command “ST.” List the traffic under the subject prompt as “QTC-1 NWS.”
- Emergency reports may be transmitted to the National Weather Service via the K8DTX-5 packet Teleprinter within one hour of the scheduled time of observation. However, this should be done only if scheduled nets are not in session or if there is no response on 3663 kHz (7068 kHz day).
- Whenever possible, those stations filing their messages via Packet Radio will prepare their message(s) in advance using a “buffer” or memory system. This will insure that the connection, uploading, and termination occur quickly so as not to tie up the system needlessly. Remember. This system may be needed for other emergency reports.
- QMN Member Stations endeavor to monitor 14050 kHz and 7050 khz, the National Radio Emergency Net Frequencies on a regular basis in addition to the QMN Calling and Emergency Frequency for Michigan (3663 khz).. Please make a note of these frequencies.
- For ease of readability by NWS Staff, and to prevent confusion, all messages will be formatted in the following manner:

Connect to W8IHX-1 or W8IHX-8, Utilize “ST” command:

Preamble: 221 R W8ZZ 3 ADRIAN MI 2330Z MAY 4
Address: NWS-DTX
Blank Line:
Text: LENAWEЕ RAIN 143
Blank Line:
Signature: DARR
Blank Line:
Blank Line:

Begin Next Message or Disconnect

- Note the two “carriage returns” at the end of the radiogram. This insures that some space exists between each message as it comes in, making it easier for the NWS or QMN staff to read the information.
- The following facilities are available to expedite the flow of ARPSC related communications traffic in the SE Michigan Area. All facilities are for ARPSC use ONLY. These facilities are:

East Michigan

- *Detroit - Downtown:*

W8IHX (alias “QMN-1”)	High-profile Digipeater
W8IHX-1	Primary QMN BBS
K8QMN-1	KA-Node

- *Ann Arbor:*

W8IHX-2 (alias “QMN-2”)	Low-profile Digipeater (limited use)
W8IHX-3	American Red Cross/QMN BBS
K8QMN-3	KA-Node

- *Milan:*

W8IHX-4 (alias “QMN-3”)	High-profile Digipeater
W8IHX-5	Standby BBS for emergency use only.

- *Chelsea:*

W8IHX-6 (Alias “WPXD”)	High-profile Digipeater
K8QMN-4	KA-Node

- National Weather Service – Detroit / White Lake:
K8DTX-2 (Alias “QMN-5”) BBS - NWS Business Only
- Flint:
W8IHX-10 (alias “QMN-8”) High-profile Digipeater
- Grand Blanc:
N8EXV BBS / Digipeater
- Lansing:
K8CHR Digipeater
WC8EOC State Emergency Operations Center BBS (MSYS)
- Clinton County:
W8IHX-12 (QMN-10) High-profile Digipeater
W8IHX-13 Clinton County BBS
K8QMN-10 KA-Node

West Michigan:

- Allegan:
W8IHX-7 (alias “QMN-6”) Low-profile Digipeater
W8IHX-8 Secondary QMN Packet Radio BBS
K8QMN-6 KA-Node
- Allegan County Emergency Operations Center:
W8IHX-9 (alias “AAEOC”) High-profile digipeater
Packet Radio Terminal
- Grand Haven, Michigan
K8QMN-9 High profile digipeater
- Hudsonville, Michigan
KC8RLB (alias “HES”) Moderate profile digipeater
KC8RLB-1 Packet Radio BBS City of Hudsonville

- Kalamazoo – American Red Cross State Lead Chapter:

W8VY (alias “KARC”)	Wide coverage digipeater
W8VY-1	Packet Radio BBS serving ARC
W8VY-7	“KA” Node

- Kalamazoo County Emergency Operations Center:

W8VY-5 (alias “KEOC”)	Wide coverage digipeater
	Packet Radio Terminal

- Moline, Michigan:

K8QMN-13 (QMN-13)	High-profile Digipeater
K8QMN-14	PBBS
K8QMN-15	KA-Node

Notes:

1. Please be advised that a number of other public-safety facilities such as Emergency Operations Centers and Police Departments also have systems operational on this frequency. Please check with your local ARRL Emergency Coordinator for further details. Further information is available at the QMN Web Page: “www.qsl.net/w8ihx/”
2. Questions occasionally arise about permitted usage of the QMN Packet Radio Net frequency. The goal of the program is to reserve a frequency for public service use only. Operators are encouraged to occasionally use the system, experiment with it, and gain familiarity with it. However, we do discourage the use of the system for casual communications, keyboard-to-keyboard “chats” and similar non-public service communications.
3. The QMN High Frequency PACTOR gateways were shut down in early 2004.

SAMPLE ROUTINE RAIN REPORT

72 R WB8SIW 3 SUPERIOR TWP MI 2330Z OCT 30

Place of origin: Location where observation was made

Time and Day in UTC.

NWS DTX

Indicates observation was made within jurisdiction of the Detroit/Pontiac office.

WASHTENAW RAIN 007

County of Origin

Type of Precip.

0.07 inches of rain

WADES

Last name or call sign of originator

SAMPLE ROUTINE SNOWFALL REPORT

77 R W8IHX 4 TRAVERSE CITY MI 0030Z JAN 27

There are 4 words
("groups") in the text.

NWS APX

GRAND TRAVERSE SNOW 500/1500 LIQUID 051

5.00 Inches of snow
have fallen in the past
24 hours

A total of 15.00 inches of
snow were on the ground at
time of observation.

The liquid equivalent of
this snowfall (melted) was
0.51 inches

MEYER

SAMPLE REPORT INDICATED MIXED RAIN & SNOW

45 R K8QMN 3 ALLEGAN MI 0030Z DEC 2

NWS-GRR

The station of origin is
K8QMN.

ALLEGAN MIXED 079

Rain and snow were mixed,
requiring a liquid equivalent
reading. 0.79 inches of liquid
fell.

WADES

SAMPLE EMERGENCY SNOWFALL REPORT

221 P K8QMN 5 ANN ARBOR MI 0030Z DEC 25

NWS-DTX

9.40 inches of snow are on the ground at time of observation.

WASHTENAW 6 HOUR SNOW 320 / 940 / 650

MEYER

3.20 inches of snow fell during the previous six - hour period

650 inches of snow have fallen since the storm began