



Established: 1964

North Shore Radio Association News

WINTER 2009

Editors: Kathy (KB1LPW) & Rick (KB1LYJ) Savage

www.nsradio.org

Mailing Address: P.O. Box 3724
Peabody, MA 01961-3724



member

Meetings: Third Monday of the Month (September to June) at 7:30 P.M, at the South Congregational Church, 60 Prospect Street, Peabody, MA (talk-in 145.470/R)

Weekly club NET: Sundays at 20:30 (8:30 P.M.) on the 145.470MHz PL of 136.5 Danvers Repeater

CLUB BOARD OF DIRECTORS

(all emails:
Callsign@nsradio.org)

President:
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N1UGM

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Eric Horwitz
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Club Trustee:
Lou Harris
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SILENT KEYS...

On Monday October 20th NSRA lost one of it's members, Pete Aery, KI1P. He was a mentor to many at the club & will be sadly missed.



GARDNER OPERATIONS...

North Shore ARES activated starting on Friday, December 12 due to a large and highly damaging ice storm affecting the region. After standing-by for just over a day, we received a request by the emergency management director for the city of Gardner, MA, Paul Topolski – W1SEX who was seeking amateur radio support to assist with shelter and health/welfare operations. Gardner had suffered from significant infrastructure damage as a result of the ice storm and as a result opened two shelters to care for displaced residents. Most of the town was without power for several days, and at the height of the storm the entire town is believed to have lost power.

Since public safety radio systems were becoming over burdened with health and welfare radio traffic, Paul put in a call to John Ruggiero – N2YHK, Western Massachusetts ARES SEC for Amateur Radio help. As most of his ARES resources were tied up with local ARES operations, he turned to Rob Macedo – KD1CY, Eastern Massachusetts ARES SEC for assistance. The request was passed along to North Shore ARES who immediately commenced a resource net for available bodies for deployment. The operation was conducted as an ARES-MAT (Mutual Assistance Team) since the section where the support was received

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from did not have the necessary bodies to carry out the request.

After phone coordination with Paul – W1SEX, it was decided support should begin Saturday night, December 13, 2008 at 20:00 and be carried out in standard 12 hour shifts. North Shore ARES moved to full activation status at 18:30 on Saturday, December 13 to aid in this call for assistance. Two operators were deployed from North Shore ARES and two from Franklin County ARES to begin the operation. A total of five (5) operators were requested for each shift with support requested through at least Monday and possibly into Tuesday (a total of two to three days).

Coordination conference calls were established twice per day to keep necessary parties informed of the situation in Gardner and expand our requests for resources as required. Participating in the calls were Jim Palmer – KB1KQW from North Shore ARES who would become the ARES-MAT Coordinator, in addition to Eric Horwitz – KA1NCF. Also participating were Rob-KD1CY, John-N2YHK, the SEOC RACES desk in Framingham, and Dennis Dura – K2DCD, Manager of Emergency Preparedness and Response for the ARRL. These calls were carried out from Saturday through Tuesday afternoon for a total of 8 calls. Each call was between 20-30 minutes. After the last call it was decided to handle any further ARES-MAT business by e-mail unless additional deployments were required.

Both new and experienced ham radio operators joined in this operation. There were a few amateurs who had no net control experience and found themselves leading the operation at the police station. In at least one instance, a member of the North Shore ARES team who is a nurse found herself relocated to one of the shelters to provide medical assistance in the event medical care was needed. Particularly of note was the loss of incoming phone service for a portion of the city, including to the hospital. Amateur Radio operations were not requested up until that point, when an operator was dispatched to that location. Amateur Radio served as the only means of communication between the Police Department and the Hospital, with critical traffic being passed to request medication for patients in the shelter.

Amateur Radio communications were established in several points in town, with the Gardner Police station being set up as Net Control. Tactical call signs were Shelter #1 for the shelter at the Gardner Middle School, Shelter #2 for the second shelter established at the National Guard Armory in Gardner, "Hospital" for the Heywood Hospital during the telephone outage, and "National Grid" for the mobile operations center that coordinated return of electricity on Monday.

The activation secured at 12:32 hours on Tuesday, December 16. A total of 21 Amateur Radio operators provided an approximately 257 hours of communications support to the city of Gardner during the course of the activation. Jim Palmer—KB1KQW—NS ARES Emergency Coordinator



FIELD DAY 2008 ...

I would like to THANK all those that made it happen!!!

We did GREAT!!!!!!

Total Score: 12,980

QSO's: 4,048

#1 in EMA out of 31

#1 in 4A & EMA out of 8

#2 in 4A Category out of 109

#3 in New England out of 145

#15 Overall in All out of 2410

Thanks to All that help with this effort....

See you next year....

Eric and the FD2008 Committee

NORTH SHORE ARES/SKYWARN UPDATE...

Winter has entrenched itself in New England, and shows no signs of warming up in the near future. As I write this brief report to you, the snow is falling and continues to pile up across the region. Remember to report snow fall totals, wind reports, any damage, and other reports of criteria to the North Shore SKYWARN net on 145.47. Should the 47 repeater ever be found off-line during an activation, please QSY to 146.88 Salem or the nearest SKYWARN repeater to your location. A complete repeater list can be found at www.wx1box.org.

I would be remiss if I did not thank each and every ham radio operator for their assistance during the largest ARES-MAT operation since 9/11. Working with Eric-KA1NCF, Mike-KB1OHZ, and Gordon-KX1KTY, we have been able to accomplish this task thanks to our numerous drills and training exercises we have conducted over the past several years. Please find attached within this newsletter a summary of the operation that occurred in Gardner, and watch for our full report on this incident, along with numerous pictures and articles, to be issued in early February and available through the North Shore ARES Yahoo Group and at the NSRA Web Page.

The "Basic ARES Workshop" held on November 22nd in Peabody, which was the 2-year anniversary of the Danversport Explosion, proved an excellent precursor to the Gardner activation. 24 participants were in attendance for various presentations ranging from Net Operations to NTS to a fantastic go-kit presentation by Frank-WQ1O and Dan-K1DYO from Cape Cod ARES. Additionally, the Peabody Emergency Management Director, Chris Tighe, spoke to the audience and expressed his deepest appreciation for what ARES has been able to provide for the City of Peabody during major storms. Watch for our Advanced ARES workshop to be held in April which will build on these techniques.

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The 2009 ARES drill schedule is being compiled and will be made available as soon as completed. Watch for both an early spring exercise and a fall SET. As they said during Willy Wonka and the Chocolate Factory (1971 edition), "Little surprises around every corner but nothing dangerous" – a statement that holds true to all our exercises. We strongly encourage your participation in these exercises which will expose you to various failovers and issues which may be encountered during a real activation.

In closing, I would once again like to thank you to all for your help during a very busy and seemingly never-ending 2008. I look forward to continuing our work in 2009 and for many more years to come. If you have any questions about North Shore ARES, or would like to be added to our e-mail list, please e-mail us at ares@nsradio.org and we will provide you with the proper information.

Jim Palmer – KB1KQW
North Shore ARES Emergency Coordinator
North Shore Asst. SKYWARN Coordinator

AMATEUR RADIO EXAMS...

Exams are being held on the fourth Saturday of each month, 12:00 Noon, at the Danvers Central Fire Station on High Street. E-mail our Exam Session Coordinator W1DFL at [nsradio dot org](mailto:nsradio.org) or W1ZT at nsradio dot org for information (no links to prevent spam).

Upcoming NSRA Exam Dates:

February 28, 2009
March 28, 2009
April 25, 2009
May 23, 2009
June 27, 2009 @ ARRL Field Day
July 25, 2009
August 22, 2009
September 26, 2009
October 24, 2009
November 28, 2009
December 26, 2009

BOSTON CENTER FOR THE ARTS SHOWS NOTED QSL's...

The BCA is presenting a large scale exhibit featuring QSL cards showcasing the correspondence between Bill Adams (call sign not available), and fellow ham radio operators throughout distant regions of the world between the years of 1925 and 1996.

The QSL cards express their personalities and provide information about how they lived - resulting in an array of international graphics and text from virtually every country in the world. Many of the cards are derived from political entities that no longer exist, such as the USSR, Nazi Germany and colonial Africa. The exhibit also features photos of the W6ANN antenna farm, similar to the array used to transmit these signals across the world along with a log book chronicling the communications.

This exhibit runs until 15 February 2009 at the BCA, 527-551 Tremont St, South End, Boston. The BCA presents exciting contemporary works by established and emerging local, regional, national and international visual artists. For further information, go to: www.bcaonline.org.



LOCAL AMATEURS RECEIVE VALUABLE TRAINING...

(Peabody, MA) – Several local Amateur Radio operators meet Saturday, November 22nd at the Peabody Emergency Management Center to receive training in various methods of emergency communications. Modules ranging from communicating in an emergency through emergency “Go-Kits” were held and well received by the audience. Approximately 30 people were in attendance from locations as far south as Cape Cod and as far north as Gloucester, and all were impressed by the wide ranging syllabus offered. This emergency communications workshop provided the background and information to serve amateur radio operators when they need to respond to a communications emergency or when supplemental communications via amateur radio is required.

Local Amateur Radio Emergency Coordinator Jim Palmer – KB1KQW and District Emergency Coordinator Eric Horwitz – KA1NCF were pleased with the turnout at the workshop. “This training serves as a valuable tool to all amateurs with an interest in emergency communications and allows us to better serve the community in times of need” commented Palmer.

Members of the North Shore Amateur Radio Emergency Service, or ARES, provide a valuable contribution to emergencies when other modes of communication can potentially fail. Often times ARES members focus on supporting the National Weather Service in Taunton through the SKYWARN program providing invaluable ground-truth information to the forecasters to better refine their watches, warnings, and statements. Coordinators of the SKYWARN program were recently awarded an “Award of Excellence” for their dedication during the 2008 severe weather season.

“ARES has been a valuable asset to the City of Peabody and is a critical component of the emergency management operation” said Chris Tighe, Director of Emergency Management for Peabody. ARES has been supporting the city through various events, mostly related to the adverse weather, for the past two years. Getting involved in ARES and ham radio has never been easier. Interested parties study for and pass a 35 question multiple-choice exam on basic radio rules and electronics. Morse code is no longer a requirement to getting your amateur radio license. Exams are held regularly and involve a small fee.

The City of Peabody is currently in the process of forming its own “Community Emergency Response Team” or CERT Team to aid the emergency management department in times where civilian volunteers can assist with the response effort to an emergency. CERT team members receive additional training on communications, shelter operations, and incident management and apply this training during an emergency. CERT volunteers can assist with local shelters, work in the Emergency Management Center, and much more! For more information on joining the Peabody CERT team, please contact Chris Tighe at Peabody City Hall at 978-538-5925. For more information on ARES or SKYWARN, you can contact Jim Palmer – KB1KQW or Eric Horwitz – KA1NCF via e-mail at ares@nsradio.org or by visiting www.nsradio.org.

OUT AND ABOUT WITH NSRA WBZ TRANSMITTER TOUR, NOVEMBER 15, 2008...

The day of the tour began with a light rain and gray skies, as I waited at a rest area along Route 128 on a mid-November Saturday morning. Soon I was joined by several NSRA members, a cup of coffee and we were off in a three car caravan, to Hull, MA. The site of WBZ AM transmitter site. The two tall antennas have been a familiar site in Hull since 1938 when they were first built. At the base is the white transmitter building, which blends very nicely into the neighborhood.

I paused for a moment and gave thought on why we had set this tour up and what would a group of ham radio operators get out of this? I thought how much we don't get to see up close in radio such as this chance to have a tour and discussion of the state of the art transmitter site of WBZ. The station is America's

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first clear channel radio station since the early 1920's. This was the rare chance to visit a maximum power fifty thousand watt radio transmitter Chief Engineer David Goldstein W1DJG came to the door and with a big hello and invited us in. He had already had a large group of twenty or so members of the southern mass radio club where he is a member. Inside the approximately twenty or so members were joined by the 19 NSRA members.

Dave Goldstein began a very comprehensive tour and technical discussion of the whole operation. He showed us the high definition digital transmitter, which was set alongside the analog transmitter. Behind the transmitters was a temperature controlled dust free room, which was always locked and entered only on maintenance times. Dave went into detail of the digital and analog transmitters and unique differences. He showed us some old pictures of earlier times when eight broadcast engineers would be on the site in three shifts, 24 hours a day, when WBZ began 24 hour operation in the early 1930's. Dave discussed the several ways audio lines and microwave links got to the transmitter. He also told us that a very expensive antenna rebuild and repair would be starting in the early spring to both antenna's as this was badly needed.

Next Dave showed us the panel which control's all incoming audio, the national emergency control connections direct from Washington, DC. Should a national emergency come about WBZ is the prime station for all of New England and would set the pace, He showed us a small studio where in theory a person would take over broadcasting in the event of drastic need.

Following this was a discussion on antenna loading with the large antennal coupler, and phaser. Dave explained that only about two-hundred watts are broadcast out to sea, and rf energy was a cataroid pattern with direction to the west for obvious reasons of where the listeners were.

The tour was un-hurried and everyone had a chance to ask questions to Dave. Next stop was in the attic to see the air blowers, where Dave mentioned these were now overkill, and were for the analog transmitters, but with the cool running digital transmitter, were not necessary.

Then there it was, over in the corner, the remains stored for reasons unknown a 1928 disc cutter for large 78 rpm disc. State of the art in its day but now only a relic...down in the corner was a old microphone of the same era. What a contrast, I thought, from the new to the old of a earlier day.

Dave told us that in the past the transmitters were all up here in the attic, even the short wave transmitter which was on the air during WW-II. As we started down the stairs Dave showed us a toy train set-up, saying those long transmitter watch's, must have been somewhat long at times, and the engineers had time to play.. Dave said "we are just as happy to leave the setup stay here in the stairwell", as it has for properly fifty-years.

The tour concluded with a walk out on the cat walk to the antenna base, Dave showed us both phase buildings and the antenna coupling--- that serious rf-power was in and around the large coils, and in the second antenna building, Dave had each of us go in, one at a time, to actually hear the modulation coming from the inductance coils. It was a special treat, to be shown this as very few people would be allowed to be this close. Every one showed interest and the temperature was mild and the rain had long stopped. We had all the time we wanted to talk and look around with Dave.

The time had come and the tour ended with most of us feeling hungry, so after closing up the building, approximately 24 members of both clubs went to the Red Parrot restaurant, for a great luncheon at this long time Nantasket beach favorite dinning place.

In the early days of broadcasting amateur radio played a major role in it's development, and most were ham operators. I think everyone had a good time and perhaps learned a little more about radio and how

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(Out & About....Continued from page 6)

it works.

Many thanks to Dave Goldstein W1DJG, Dan Brown W11DAN of WBZ .

73's
Al Prudhomme, Jr W1DUW
tour guide

ARRL NEW ENGLAND DIVISION CABINET MEETING, JANUARY 10, 2009...

It was once again, a pleasure for me to represent the NSRA at the New England Division cabinet meeting held at Springfield Monarch Place Sheraton Hotel in Springfield Mass, on January 10th. Over coffee and prior to the meeting start, Rob Macedo KD1CY came up and told me how much he appreciated the NSRA, Jim Palmer KB1KQW and crew, on the recent emergency in Western Mass. Rob mentioned "when I needed the help the NSRA came through and did an excellent job." What a great way to start the meeting, I felt, and this alone made the effort of attending the meeting worth the trip.

Our New England Director, Tom Frenaye K1KI and his sidekick Mike Raisbeck K1TWF the Vice Director ran a great meeting with tons of information, and interesting side notes of things going on with the ARRL., and any member interested, I would suggest attending also. See me or President Mark C. if interested. The cabinet meeting is always a week before the ARRL Cabinet meeting (the real thing) held in the Hartford Ct. area. The next one will be in early July.

Highlights covered started off with a comprehensive revue of the emergency ARES, and the recent response to the devastating ice storms. Hams from all the New England sections (thirty-six hams in total) were in attendance, so the report was inclusive of all the areas hit, by the storm and the response needed.

Director Tom Frenaye, then led a great discussion and revue of ARES and where it fits in as an important part of the ARRL., Tom even discussed how other parts of the country ARES handle emergencies such as the great effort of hams in Southern California and the wild fires. Director Tom went into the cost of ARES and emergency training and how the ARRL is working to try to reduce the cost. Rob Macedo went into the training in eastern Mass and the program Jim Palmer KB1KQW has used, here with the NSRA.

I had a great talk with our new section manager, Mike Neilsen, W1MPN and how much he looks forward to visiting us in the month's ahead. I have known Mike for many years, and know how well he will represent the EMA section.

Other topics covered more or less in order, was contesting, the Sweepstakes the EME (earth moon earth bounce) and how digital scanning can sweep many times on low return signals and technically pull the signal out. This has raised issues between testers, on how fair is all this? Not all ham testers are able to get the latest and greatest in digital processing, and must keep a fair contest for all hams. Other members brought up that this is true in CW contests also and it was discussed how automation does all the work in sending and copy of Morse Code, a cw tester does not even have to know the code any more, and just how fair is this? was discussed, with an example of abuse, also the technical CW Skimmer program.. a discussion followed, and Director Tom F. mentioned these were all problematic issues the ARRL will be working on to keep contesting fair to all.

In brief I will just mention other issues covered and invite anyone interested to see me for more information on the subject of interest, in the context of my notes, taken at the Cabinet meeting.

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What constitutes a QSO in the new age of digital software? DXCC and how it must be kept fair to all participants, some issues such as CW skimmer were discussed .

Matters of the politics of the FCC and their problems with the change over to digital TV. There is no official FCC policing at the present time since Reiley Hollingsworth retired. The ARRL is pushing the FCC to name a replacement.

Membership growth, some good news in 2007 their were in total 866 new hams in New England. In 2008 their were a total of 1059 new hams, so ,we "had some growth. Their were a total of 500 upgrades in New England in 2008 and nation-wide a total of about 2700 new hams in 2008.

Tom Frenaye mentioned that Amateur's much adapt to new changes brought about in the digital age, and he pointed out that the ARRL is even slow to adapt to change, "To many people around still comfortable in analog technology" .

The ARRL has noted an increase to rude operation by Hams, and encouraged all to "tone it down" and mentor new hams in showing good clean operation skills.

Digital hf testing is being worked on, in the 7 mhz to 7.4 mhz band (40 meters) now that the FCC has approved digital ham transmission, these are not compatible to present equipment and will have to share space, in the band.

The 440 mhz. band and issues with the US Air Force Pave Paws program was discussed, Tom said , problems on Cape Cod have been settled and 440 repeaters have moved, but that many issues still exists in California.

Issues such as these will be up-front in the Board meeting of the ARRL, along with the discussion of a Code Conduct for hams and just how far background checks should go with the Red Cross and Hams who want to volunteer in emergency communications. This has become a big issue with some who want their privacy.

The meeting ended in the late afternoon with Tom asking this big question! Should the ARRL be just for the radio and licensed HAM? , or include other interest areas, SWL, Radio Control boats, cars and planes, experimenters, (but don't wish to get on the air), and technical innovators?

Best 73's
Al Prudhomme,Jr. W1DUW



CREW 47 KB1PAL...

Crew 47 has been busy the past few months. In October was our largest event. We were Mass' Jam Sub Camp 6 Communications Staff. This event occurred on October 11-13, 2008. Mass' Jam was located at the Barnstable fairgrounds. During the weekend our job consisted of establishing a Net Control Station, attending to the Mass' Jam radio, and monitoring for health and welfare throughout the sub camp. At the net control station we had the Mass' Jam radio, a scanner monitoring the FRS/GRMS frequencies, a radio dedicated for our net, and a radio monitoring NE1C simplex frequency. NE1C is the other Amateur radio Venture crew based out of Agawam, MA which was also in attendance. We had two 2meter/70centimeter antennas mounted on 25 ft masts located at the center of the sub camp. On Friday we established the Net Control Station and then established our net. We helped several of our crew members and NE1C with directions to find the fairgrounds. Throughout the weekend we helped troops find there campsites, maintained communications throughout the sub camp, and helped with the departure of the troops. After Mass' Jam the crew gave a presentation to the club about what we had done at Mass' Jam and about the history of the crew. Then the next event that the crew helped with was the Holiday dinner. The crew helped to serve the food. The crew also helped with the Special Olympics 2008 Jolly Jaunt. The Crew also has several more events planned for the future. We are planning on having first responder training for the crew. We are also planning on holding another License in a Weekend course. The crew has also elected a new President, Vice President, and Treasurer/Secretary for the upcoming year for the crew. The new president will be Jason-KB1PQB. The new Vice President will be Andrew- KB1NEG. The new Treasurer/Secretary will be Chris- KB1QKI. With the events that the crew has planned it looks like it will be another successful year.



NSRA Repeaters

- All the following repeaters has the club callsign of **NS1RA**
- **145.470- Danvers (PL of 136.5)**, full functions including phone patch.
- **146.880- Salem, (PL of 118.8)**
- **223.880- Danvers (PL 136.5)**
- **442.800+ Danvers (PL of 136.5)**, full functions including phone patch
- **53.850- Danvers (PL 71.9)**

All CTCSS tones on repeaters have the option to be turn off if needed. Dial "11" to turn off so that a non PL user can use the repeater, Please remember to turn PL back on with the code of "10"

Digipeaters

- **144.390 in Danvers, APRS Digipeater** under the Call of NS1RA-1
 - **144.390 in Beverly, APRS IP-Gate**, Callsign of NS1RA-2
- Go to to the APRS page for more information on this mode.

Repeater Status - as of 12-4-08

53.850 (-)	PL 71.9	Danvers	OPERATIONAL
145.470 (-)	PL 136.5	Danvers	OPERATIONAL - PL REQUIRED *ON SPLIT ANTENNAS - REDUCED COVERAGE IS POSSIBLE***
146.880 (-)	PL 118.8	Salem	OPERATIONAL
223.880 (-)	PL 136.5	Danvers	OPERATIONAL
442.800 (+)	PL 136.5	Danvers	OPERATIONAL - NO FUNCTIONS
144.390		Danvers APRS I-Gate	OPERATIONAL
EchoIRLP	#4427	On 145.47 R	OPERATIONAL

From the Editors...

If you like what you see, or feel something is missing & you would like to contribute (ideas include: an informational article, cartoon or other ham related information) we would like to have your information/ input. The deadline for the Spring issue will be March 15th. Please send your information to KB1LPW and BKILYJ at newsletter at nsradio.org.



PUBLIC SERVICE CALENDAR...

Requests for our assistance at various events have been coming in. some of the old standards as well as some new ones. An updated list with the link to sign up should be posted on the NSRA web site within a couple of weeks. An email will be sent out when it becomes available.

PREPARATIONS FOR EXTREME COLD WEATHER...

This is taken from the MA Public Safety Web Site

Before an Extreme Cold Emergency..

- Continue to be aware of the weather conditions by monitoring media reports.
- Ensure you have sufficient heating fuel, as well as emergency heating equipment in case you lose electricity.
- Have a well-stocked Winter Home Emergency Supply Kit that includes flashlights, portable radio, extra batteries, a first aid kit, bottled water and non-perishable food.
- Make sure your car is properly winterized. Keep the gas tank at least half-full. Carry a Winter Survival Kit in the trunk including blankets, extra clothing, flashlight with spare batteries, a can & waterproof matches (to melt snow for drinking water), non-perishable foods, windshields scraper, shovel, sand, towrope and jumper cables.

During an Extreme Cold Emergency...

- Minimize outside activities, particularly the elderly and very young. Also consider your pets.
- Dress in several layers of loose-fitting, lightweight clothing, rather than a single layer of heavy clothing. Outer garments should be tightly woven and water repellent.
- Wear a hat, mittens (rather than gloves) and sturdy waterproof boots, protecting your extremities. Cover your mouth with a scarf to protect your lungs.
- Excessive exposure can lead to frostbite, which is damage to body tissue that is frozen. Frostbite causes a loss of feeling and a pale appearance in extremities, such as fingers, toes, ear lobes or the tip of the nose. If symptoms are detected, seek medical help immediately. Slowly rewarm the affected areas as you await medical assistance.
- Hypothermia can occur in extreme cases. The warning signs are uncontrollable shivering, memory loss, disorientation, incoherence, slurred speech, drowsiness and apparent exhaustion. If the person's temperature drops below 95 degrees, seek immediate medical care. If medical assistance is not available, slowly warm up the person, body core first, wrapping them in a blanket or using your own body heat. Do not warm the extremities first, for this drives the cold blood towards the heart and can lead to heart failure. Do not give the person alcohol, coffee, tea or any hot food or beverage. Warm liquids are best.
- When utilizing alternate heating sources, such as your fireplace, wood stove or space heater, take the necessary safety precautions. Keep a fire extinguisher handy, ensuring everyone knows how to use it properly. Test smoke alarms.
- If you lose your heat, seal off unused rooms by stuffing towels in the cracks under the doors. At night, cover windows with extra blankets or sheets. Food provides the body with energy for producing its own heat.
- To keep pipes from freezing, wrap them in insulation or layers of newspapers, covering the newspapers with plastic to keep out moisture. Allow a trickle of warm water to run from a faucet that is farthest from your water meter or one that has frozen in the past. This will keep the water moving so that it cannot freeze. Learn how to shut off your water if a pipe bursts.
- If pipes freeze, remove insulation, completely open all faucets and pour hot water over the pipes or wrap them with towels soaked in hot water, starting where they are most exposed to the cold. A hand-held hair dryer, used with caution, also works well.



North Shore Radio Association Membership Application

Date: ___/___/___ ___ New ___ Renewal ___ Update Info ___ Donation
Call sign: _____ Class: _____ Year first licensed: _____
Name: _____ Name on air: _____ B-Day: _____
Address: _____ City: _____ State: ___ Zip: ___-___
Phone (Home): _____ (Work): _____ ARRL #: _____
E-Mail address: _____ Web Page: _____
If on the Internet: ___ Newsletter via Internet ___ YourCall@nsradio.org mail Address
Your capabilities (bands, modes etc.): _____
Other hobbies & interests: _____
Referred by (if any): _____

Type of membership requested (check one):

___ Full ___ Student (full-time) ___ Associate (family member)

If Associate, Call sign of the Full member in your household: _____

Dues:

Full = \$20 Student = \$5 Associate = \$5 **New members add \$5 initiation.**

Partial Year: Sept. - Nov. = \$20, Dec. - Feb. = \$15, Mar. - May = \$10,

June - Aug = \$20 (Credited to next year's membership. (3 months free)

[New members will receive a personalized NSRA Club badge with their call and on-air name displayed.]

Amount enclosed: _____

Mail to: NSRA RENEWALS PO BOX 3724 PEABODY MA 01961-3724

