The New Hampshire Local Government Center will provide programs and services that strengthen the quality of its member governments and the ability of their officials and employees to serve the public by being a catalyst for dialogue and action, an advocate on issues, an advisor on problems, a provider of benefits and risk management services, an educator/trainer in skills and a resource for information.
Winter is the time for fun in the snow – but not if that snow is deep on your roof.

Freezing winter temperatures and the build-up of ice and snow may cause extensive damage to buildings. Fortunately, there are actions that can be taken to prevent, or reduce, the likelihood of severe damage.

**Ice Dams**

Ice dams occur when melted snow on the upper sections of a roof refreezes in the gutters and at the roof’s edges, building a “dam” of frozen ice and snow. When additional snowmelt builds up against the dam, it may eventually leak into the building causing extensive damage. Icicles hanging from the roofline of a building indicate the potential for ice dams and serious ice damage. The following tips are provided to help prevent this problem:

- A “warm attic” should be avoided by insulating the attic floor; professional insulation companies can install the recommended types and thicknesses. A contractor should check for areas where warm air may be flowing into an attic around chimneys, exhaust fans, plumbing, and ceiling light fixtures.
- If there have been roof leaks in the past, it is important that all damaged insulation is replaced.
- There should be adequate ventilation in the attic to provide a continuous flow of cold air. Soffit-to-ridge vents, running along the length of the house, are often the best solution. The attic temperature should only be a few degrees warmer than the outside air.
- The area around drainpipes should be kept open so ice will not accumulate.
- When replacing a roof, a contractor should be contacted about the latest systems available to prevent ice dams.

**Roof Collapse**

Although a roof may have been built to meet state or municipal codes, it is difficult to determine the safe level of snow and ice that it can support. The depth of snow, drifts (on the roof), moisture content of snow, weight of roof coverings, construction design, and the age and condition of a roof are all factors that must be considered.

The following tips may be of assistance to avoid a roof collapse:

- Correcting the conditions that could lead to ice damming (a warm attic and poor ventilation) will also help to prevent deterioration of a roofing system.
- Excessive depths, drifting, melting, or rainfall on snow are conditions that could cause a roof to collapse. Attention should be directed to the build-up of snow and ice on the overhangs and in the roof valleys; also, be cognizant of unusual noises on the roof or in the attic, which may be an indication of problems. If these conditions occur, a professional should be contacted to remove excessive snow and ice.
- No one but a professional or contractor should ever go on a roof to remove snow and ice. It is too dangerous! The condition of the roof system/rafters should be checked for deflection or spread. If this condition exists, it is often an indication that there are structural failures, which need to be addressed by construction professionals.
- For information and advice, contact local building and housing inspectors, architects, structural engineers, carpenters, or remodeling professionals.
- For additional resources regarding roof snow loads, please visit the following Web site: http://www.extension.umn.edu/distribution/naturalresources/DD6891.html

**Frozen Pipes**

As water freezes, it expands and exerts tremendous pressure on pipes that will often cause them to burst. Damage from burst pipes can be extensive and costly. These tips should be followed to help avoid this problem:

- Water pipes running in unheated walls and areas should be checked. Ideally, insulation should be added in such areas, or the pipes should be relocated to heated areas.
- In extreme cold, cabinets should be opened to allow warmer air to circulate (remove any products harmful to children or pets from the cabinets). Water should be allowed to drip from faucets that are supplied by exposed pipes.
- If leaving a building for extended periods of time, the thermostat should be set no lower than 55°F.
- An open flame should never be used to thaw pipes; a licensed plumber should be contacted as soon as possible.
- All outside connections should be checked to verify that they are properly insulated, frost-free faucets. These faucets have a deep valve seated inside the wall to prevent them from freezing. The best advice is to be sure that all outside connections are disconnected during the winter months.
- For additional information, visit the following Red Cross Web site page: http://www.redcross.org/services/disaster.

**DISCLAIMER:** The information reported herein was developed from sources considered to be reliable. No warranty as to completeness or correctness is implied or intended, and no liability for loss or damage arising from the use of this bulletin is assumed. Every effort has been made to identify unsafe conditions and procedures; however no claims are made to having observed all unsafe conditions.