

RETURN OF THE WINTER HEATING SEASON

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The arrival of colder weather throughout Alberta and the entire country signals the return of the winter heating season with all of its associated hazards. There are countless thousands of space heating appliances operating to heat our homes and businesses, from old pot bellied wood stoves to the latest high-tech high efficiency natural gas fueled furnaces. Regardless of their age and design, all heating appliances that consume a fuel of some sort (wood, pellets, coal, oil, propane or natural gas) can present a carbon monoxide or fire hazard.

Carbon monoxide is a colourless and odourless gas produced by the incomplete burning of any fuel. This gas can be produced if there is not enough ventilation and combustion air provided to a fuel burning appliance or if the appliance is damaged or not properly maintained. CO can be spilled into the occupancy areas of buildings when the proper exterior venting of combustion gases does not occur due to vent/chimney blockage or improper vent drafting flow.



Carbon monoxide (CO) poisoning occurs when the CO gas in the air displaces the oxygen in a person's blood stream, due to its much greater affinity (more than 100 times that of oxygen) to the blood's hemoglobin. CO poisoning can cause effects running from minor headaches and nausea to brain damage and death.

The generation of CO gas can be reduced or virtually eliminated by making sure

that any fuel-burning appliance is properly installed and maintained. An annual check of any major heating appliance, which can usually be scheduled through your fuel supplier, is just good common sense.

The installation of an inexpensive CO detector in the area of your home's bedrooms can add additional peace of mind.

Fires associated with heating appliances also tend to increase during the winter season. While there is an observed increase in failures on all types of heating appliances, wood or solid fuel burning heaters and fireplaces make up the majority of residential heating fire causes seen at this time of year. CO poisoning does not typically occur with the use of wood/solid fuel burning appliances as there is usually sufficient smoke discharged along with any generated CO gas to indicate that there is a problem with the unit.

Maintenance and cleaning of any wood burning appliance/fireplace is critical to continued safe operation of the heating source. As wood is burned, it generates soot, creosote and other combustion by-products that can remain in the appliance's chimney or vent. These materials can build up and cause the breakdown of the chimney material and are prone to igniting themselves and causing destructive chimney fires.

The easiest way to avoid these problems is to have any chimney connected to a solid fuel-burning appliance professionally cleaned at least once a year (Now, at the start of the heating season, is usually the best time). If the appliance is used as the primary source of heating or is used

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on a regular basis, additional cleaning may be necessary.

Unwanted fires associated with wood burning appliances can also occur as the result of incorrect installation. While there are various national/provincial Codes and industry Standards that mandate how to build a safe appliance and how to install it correctly, many wood burning units are installed in an unsafe manner.

Of even greater concern, most of the typical defects in manufacturing or installation may not be readily visible or apparent, even to experts in the field. Many fire-causing failures can take years to occur after installation of the

appliance. A typical example of this is when a fireplace chimney is placed too close to wood structural members in a house. It may take several heating seasons for the wood to decompose or pyrolyze enough for it to finally ignite.

The best way to minimize any fire hazards associated with fuel burning heating appliances is to make certain that the unit and its chimney/venting are installed in compliance with applicable Codes/Standards and to have the entire system maintained and cleaned on a regular basis. While some fire hazards associated with fuel burning appliances cannot be completely eliminated, the installation of smoke detectors in a house can help reduce the severity and possible implications of a fire if one does unfortunately occur.

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