Understanding Carbon Monoxide Alarms

Jim Davis – National Comfort Institute

With all the knowledge and training about carbon monoxide (CO) poisoning that has been made available since a family of 10 died in Chicago in 1991 of CO poisoning, there are many that are still naïve of what it actually is. It was the true beginning of the carbon monoxide alarm era, where more and more people realized the need to have one was as important as having a smoke detector. CO alarms were being purchased by the hundreds of thousands and eventually millions.

Because of the inability to properly investigate CO problems and causes, it was deemed that many of these CO alarms were defective and giving false signals. Earlier alarms went off at much lower levels than today and only personnel with advanced test equipment and training could determine if there was a real problem. Rather than investing in better equipment and training, a decision was made by Consumer Products Safety Commission, UL, Gas Research and responders, that to insure there was an actual CO problem, alarms should not go off until CO levels reached deadly levels, or at least not until people were already suffering symptoms. This assured responders that there was definitely a CO problem and their ability to detect it could remain minimal. This lack of knowledge is still endangering lives today. Some facts:

Fact 1: Carbon monoxide is always lighter than air above 32°. It comes out hot from appliances and moves towards the ceiling.

Fact 2: Carbon monoxide does *not* mix evenly with air. It will always be higher near the ceiling than the floor. It is possible CO levels at the floor will not get high enough to set off an alarm.

Fact 3: No appliance should produce enough CO to set off *any* UL Rated CO alarm unless the appliance is operating unsafely.

Fact 4: UL Rated CO alarms do *not* protect against chronic low level CO poisoning or potential and permanent disabilities.

Fact 5: CO Alarms should always be mounted high, never near the floor. They should usually be placed close to eye level, in an area of good airflow.

Fact 6: CO Alarms should be installed near or in bedrooms first. Additional alarms can be installed in rooms with fireplaces, space heaters.

Fact 7: CO Alarms can be installed in kitchens but not near dishwashers or sink. Ovens that set off CO alarms in a kitchen are not operating safely.

Fact 8: CO alarms can be affected by humidity, hydrogen sulfides(lead acid batteries charging) and methylene chlorides(cleaning compounds), nitrous oxide, methane, high levels of natural gas and propane, acetylene, RFI (radio frequency interference).

Fact 9: When UL Rated CO alarms sound, the building needs to be evacuated immediately.

Fact 10: Administering 100% oxygen to CO victims can contribute to additional brain and heart damage (University of Toronto 2002, Scientific American 2007)

Carbon monoxide facts are out there, but they are spending a lot of time alone.