

safety due to the high CO content of the flue gases and the relative lack of odour and colour..

The CO detector serves as a warning device in these instances, which is why it is required to be located in the same room as the appliance, close to the ceiling. Unlike a "cold CO incident" as one might experience with CO leakage from a garage, the CO from a wood appliance should rise first to the ceiling because the spillage gases will be warmer than the room in general.

We sometimes hear that an HRV will "bring in air" for appliances such as woodstoves and fireplaces, but this is essentially incorrect. An HRV brings only as much air as it exhausts and cannot provide air for a combustion appliance, or a large exhaust appliance such as a kitchen exhaust or clothes dryer. An HRV will however, provide the basic background ventilation required (Principle Ventilation Capacity) without imposing a negative pressure on the house. This allows the wood-burning appliance to be used on a more or less continuous basis as is often the case in rural and remote communities. If the ventilation system was an "Exhaust Only" type however, the wood-burning appliance may not be able to be operated at the same time as the ventilation system. The home owner would then be faced with the awkward choice of heat or ventilation but not both.

SUMMARY & CONCLUSION

The combination of HRV and CO Detector provides a simple, prescriptive system for ventilation design which allows the home owner to use the wood-burning appliance at the same time as ventilation is being provided, and to provide a warning if some other appliance or event causes the wood-burning appliance to spill. This type of approach is most appropriate in rural and remote communities where persons with sophisticated design and testing abilities may not be available. Due to the manner in which the code is written however, we often see this requirement applied to a large, sophisticated home with a decorative wood-burning appliance that is not required to heat the home on an ongoing basis. The reason for this is that the "HRV+CO detector" is very often the most convenient compliance route. To be sure, this approach requires that the homeowner learn how to operate their house

and ventilation system so that problems do not occur. This is somewhat different from the F326 approach which requires an automatic system, specialist design and testing and very often, automated make-up air equipment.

It has been said that "Type II" rules are a somewhat arbitrary penalty for installing solid-fuel appliances. On the contrary, the code requirements are designed to allow the required continuous ventilation at the same time as the wood-burning appliances is in use. The CO detector provides a warning system if the homeowner operates their house in a way that causes the solid fuel appliance to spill.

Note: The book commonly known as the **ONHWP Ventilation Red book** (*Complying with Residential Ventilation Requirements of the 1990 OBC*) is now out of print. ONHWP has no plans to re-print the book.

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