

SECTION:	EMERGENCY PLANNING/LOSS OF SERVICES	APPROVED BY:	Director
NUMBER:	E.176	SIGNATURE:	
RESPONSIBILITY:	All Managers	DATE:	October 13, 2013
REFERENCE POLICY:		REVISED:	March 5, 2019
SUBJECT:	Code Brown – Carbon Monoxide Leak/Emissions		Page 1 of 3

**POLICY**

Woodingford Lodge recognizes that the potential for carbon monoxide leaks and emissions exists. In the event of carbon monoxide leak/emissions the following procedures shall be implemented by the Manager/RCC or Charge RN

**PROCEDURE**

Carbon monoxide (CO) is a colourless and tasteless poison gas that can be fatal when inhaled. CO is a bi-product of combustion from fuel burning appliances (e.g. stove, heating equipment etc.). The presence of CO means that the equipment is not operating properly and/or the equipment is not being exhausted adequately. Never ignore a CO alarm or someone whose symptoms resemble CO poisoning. CO alarms are designed to alert people to the presence of CO before an emergency and before most people would experience symptoms of CO poisoning. This will likely give staff enough time to try and resolve the problem calmly and safely.

**Reference should also be made to the specific CO monitors (E<sup>3</sup> Point) owner’s guide regarding manufacturer’s instructions and conditions of use.**

**CO Detected – Low Level Readings**

Infrequent, low readings of CO are generally not a cause of concern since they are usually due to the sudden and normal start-up of equipment, changes in environmental conditions and other nuisance causes.

**CO Monitor Alarms or monitor exceeds 100 ppm**

The alarming of the CO monitor or a reading exceeding 100 ppm should be treated very seriously and the following procedures shall be followed by staff:

**Kitchen CO detector**

1. Check the main unit located next to the Vent Master Control panel in the main kitchen and determine which Zone is in alarm (z1 or z2). The main kitchen area is z1, and the dishwashing area is z2.
2. Turn off any equipment in the immediate area that could be the source of the carbon monoxide.
3. Notify the maintenance department immediately.

4. If the CO levels continue to climb or the monitor continues to alarm, the area should be evacuated immediately regardless of which zone is in alarm. Staff should move to an area with fresh air (i.e. outside, different location in building with open windows etc.)
5. Notify the Nutritional Services Supervisor or Charge RN of the situation and call 911.
6. In the event the CO emissions are likely to overtake the facility and pose a risk to staff and residents the Evacuation Procedure (Code Green) shall be implemented.
7. Once the situation is resolved and determined safe by the Fire Department, staff may return to their regular duties

A Workplace Incident/Injury Report must be completed following incidents involving a CO leak/emissions.

### **General Information on CO Exposure**

<b>CO Concentration in</b>	<b>Possible Symptoms &amp; Legal Requirements</b>
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<b>the Air (ppm)</b>	
1-3 ppm	Normal
25 ppm	Time Weighted Average Exposure Value (TWAEV) or the average airborne concentration of CO to which a worker can be exposed to in an 8-hour shift or 40-hour work week under Ontario's Reg. 833.
30 - 60 ppm	Exercise tolerance reduced. Heavy smoker has these levels or higher.
75 ppm	Short-term Exposure Value (STEV) or the maximum airborne concentration of CO to which a worker can be exposed to in any thirty minute period under Ontario's Reg. 833.
60 - 150 ppm	Frontal headache, shortness of breath on exertion.
125 ppm	Ceiling exposure value or the maximum airborne concentration of CO to which a worker can be exposed at any time under Ontario's Reg. 833.
150 - 300 ppm	Throbbing headache, dizziness, nausea, manual dexterity impaired.
300 - 650 ppm	Severe headache, nausea and vomiting, confusion and collapse.
700 - 1000 ppm	Coma, convulsions.
1000 - 2000 ppm	Heart and lung function impaired, fatal if not treated.
Over 2000 ppm	Unconsciousness and death.

Occupational Exposure Limits (OEL) restrict the amount and length of time a worker can be exposed to hazardous chemicals in the air. Ontario Regulation 833: Control of Exposure to Biological or Chemical Agents sets the OELs for carbon monoxide as 25 parts per million (ppm) for an 8-hour time-weighted average (TWA). Exposure shall not exceed 75 ppm for any period of 30 minutes and 125 ppm at any time.

Source: Infrastructure Health & Safety Association (IHSA)