

Will your Carpark Meet

The New WCB Indoor Air Quality Regulation?

By Elia M. Sterling

A landmark Indoor Air Quality (IAQ) Regulation has now been adopted by the Workers' Compensation Board (WCB) of British Columbia. The regulation provides the WCB with expanded enforcement authority over indoor air quality related to health and comfort in non industrial workplaces throughout the province. The regulation applies to all buildings, housing non industrial workplaces, such as offices, retail stores, restaurants, bars, nightclubs, hotels, health care facilities and schools. The regulation has significant implications for the parking industry considering that most parking structures are located in or adjacent to such buildings.

The indoor air quality regulation:

1. Establishes ventilation rates, temperature and humidity requirements;
2. Requires that indoor air quality investigations be conducted and that documentation be retained;
3. Requires the implementation of preventative maintenance practices to avoid indoor air quality complaints;
4. Lowers the allowable carbon monoxide exposure level to 25 parts per million (ppm), and;
5. Establishes allowable contaminant concentrations for exhaust air of 1/10 the exposure level (i.e. 2.5 ppm for carbon monoxide).

Indoor air quality is rapidly becoming one of the leading issues facing operators and managers of commercial properties. With WCB regulation looming and IAQ litigation growing at an alarming rate it is essential to implement an indoor air quality management program. The owner, operator and employees of all carparks including surface lots, parkades and parking structures are within the jurisdiction of the WCB and are responsible for establishing IAQ management programs required to comply with the regulation.

From an indoor air quality management perspective it is of primary importance that the exposure of carpark employees to carbon monoxide be maintained below the new WCB exposure limit of 25 ppm. However, in addition to carpark employees, contamination generated within parking structures also effects employees of nearby businesses. The parking industry generally operates facilities that are either adjacent to or within other buildings housing tenants whose employees are also subject to the WCB Indoor Air Quality regulation. The regulation specifically stipulates that the employer responsible for generating contaminants or odours that could enter a workplace is responsible for their control. This means that the carpark operator is now required to limit the concentration of carbon monoxide in air exhausted from the carpark to 2.5 ppm.

As indoor air quality specialists since 1973 Theodor D. Sterling and Associates Ltd. has completed IAQ investigations of over 100,000,000 square feet of commercial and residential properties throughout British

Columbia. We have often identified either carparks within or adjacent to the building being investigated as the primary cause of the indoor air quality complaints. We have found contaminants and odours in the buildings due to:

- 1 Outdoor air intakes located on the side of the building directly adjacent to a carpark;
- 2 Outdoor air intakes located above the entrance to an enclosed parkade;
- 3 Ventilation air intakes actually located inside of underground parking structures.

Carparks located underneath buildings present unique indoor air quality challenges. Because the building and carpark ventilation systems tend to cycle on different operating schedules and demand control modes the building will at times be in a negative pressure relationship to the carpark causing automobile exhaust fumes to be sucked up vertical shafts (such as elevators and stairwells) into the retail, commercial and office areas above. Keeping these issues in mind it is clear that the WCB IAQ regulation presents a number of challenges for the parking industry.

Implementation of an indoor air quality management program is essential for carpark operators to effectively address the requirements of the regulation. The program should first identify existing design and operational deficiencies that could contribute to compliance issues and then provide an on-going indoor air quality monitoring program to document that contaminant levels inside the carpark are acceptable and that air exhausted from the carpark is not contributing to indoor air quality problems of adjacent buildings. Carbon monoxide and relative pressure monitoring should be key components of your Indoor Air Quality Program. **P**

About the author: Mr. Elia M. Sterling, MRAIC, MASHRAE is the President of Theodor D. Sterling and Associates Ltd.

For More Information please contact him at:

#310 - 1122 Mainland Street, Vancouver, BC V6B 5L1

Tel: 604-681-2701; Fax 604-681-2702; Email: sterling@assist.ca

