

Assessment of the Health, Safety and Environmental Conditions of Basement Parking Areas in Shopping Centers in Metro Manila, 2008

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Abstract

The study was conducted to assess the health, safety and environmental conditions of basement parking areas of shopping centers in Metro Manila and to determine the situation of the mall basement parking areas whether it poses threat on workers' health as well as to the general public. Every establishment adopts different practice which may cause problem in the future if there is no regulation and clear cut policies pertaining to the design, operation and specifications of the basement parking. There are multi-level basement parking which are more prone of accumulating noxious gases. Some of the establishment do not regularly operates their ventilation system while others have ventilation but due to poor design does not effectively remove noxious gases.

To assess the health, safety and environmental condition of basement parking areas.

A checklist and structured questionnaire has been administered on the day of actual sampling that assessed the health, safety and environment condition of the parking facility and its workers. Exposure of workers to dust particulates and ambient concentrations of carbon monoxide, nitrogen dioxide, sulfur dioxide and volatile organic compounds were also measured to determine the risk pose on workers' health. The air exchange was also measured to determine the adequacy of the supplied air.

Generally, results of measurement for workers exposure to dust, and gases such as nitrogen dioxide and sulfur dioxide were within the threshold limit

values. However, carbon monoxide concentration in some of the basement parking assessed showed elevated concentration which may be directly link to poor ventilation. Similarly most of the ventilation air exchange measured failed to meet eight (8) air changes per hour for OSHS standard and twelve (12) air changes per hour which was set by international standard.

Similarly, based on the interview the health symptoms commonly experienced by the respondents were muscle and joint pain, headache and cough which may somehow can be link to the nature of their work and their exposure to various airborne contaminants present at the basement parking.

Regulation should be established to ensure that basement parking and other similar enclosed parking will not pose any harm on its personnel and the general public. The regulation should include provision of adequate ventilation to prevent and control accumulation of noxious gases and dust, monitoring of gases and other parameters should also be included such as its design, provision of floor markings and convex lens for sharp curve and blind corners and provision of adequate illumination.