Dust Monitoring at Large Construction Site near healthcare facility

Dust or Particulate matter (PM) can be generated from many different sources, they can include motor vehicles, construction and demolition, burning of wood, industry and general wind driven environmental dirt and soils. Dust classified as “respirable” are 10 micrometres (µm) in diameter or less, it is often referred to as PM10. PM10 can be split into two general categories: coarse particulate matter (greater than 2.5 µm) and fine particulate matter (smaller than 2.5 µm). Coarse particulate matter is generally larger and can come from sanding and sawing during construction and demolition and mineral dirt and soils. Fine particulate matter can come from chemical reactions of sulfates and nitrates in the atmosphere, and bi-products of combustion such as motor vehicles and industry.

Independent Monitoring Consultants were contracted to monitor and assess dust levels associated with the demolition of two existing buildings within close proximity to a major healthcare facility. Dust generated from demolition and construction works could have the potential to infiltrate the HVAC system/services of the health care facility buildings and cause health problems, in particular the elderly, children and people with medical conditions. Health problems such as asthma, allergies, and breathing difficulties can occur in people if the concentration of PM10 is high. Main construction works of concern included earthworks and spoil removal, uncovered stockpiles, high vehicle traffic movement from trucks carrying spoil and dusty loads and concrete operations.

As part of a full occupational exposure assessment strategy, a preliminary site investigation was undertaken for the identification of air intakes and determination of any issues associated with the Mechanical Air-conditioning System used in the health care facility. Reference testing was undertaken prior to demolition to provide baseline results while historical data was also recorded to evaluate the affect for surrounding activity, prevailing winds and its effect on dust generation.

Real-time dust monitors were installed at several locations for reporting of PM10 particulate matter. The monitor’s logged data for the duration of the construction project where regular reports where provided to the client.

IMC worked in conjunction with engineers and OHSE personnel to ensure compliance with environmental and safety management plans, statutory requirements and alleviate community concerns.

IMC ENVIRONS div of Independent Monitoring Consultants
23-25 Daking Street North Parramatta NSW  telephone: 02 9890 5067 www.imclive.com
Email: rachel.jiang@imc1.net chris.chan@imc1.net