

Monitoring for Nuisance Dust at a Recycling Site

Air Monitoring Case Study



Oceans ESU were approached by a recycling company who required an assessment of dust generated on their site, in order to determine any impact of their operations on surrounding properties.

The company operates a site in Yorkshire where recyclable glass is crushed and processed into glass cullet. As part of planning permission to extend operations, the local authority requested dust monitoring is undertaken to determine any negative impact on neighbouring businesses.

A laser diffraction dust meter was set up at the boundary of the recycling site, to log dust concentrations over a period of four weeks. The laser diffraction method enables dust particle size to be measured as well as total dust. Wind velocity is also recorded to monitor directional sources of dust. The location of the dust meter was selected in order to monitor the dust concentrations at the boundary between the site and a sensitive neighbouring business, and the assessment was carried out during the summer months when dust concentrations were anticipated to be highest.

Following a week of laser diffraction monitoring, a schedule for dust monitoring by means of gravimetric sampling was established at several locations on the site. Gravimetric sampling draws a known volume of air through a filter for specific period of time. While this method does not distinguish between different dust particle sizes, it does provide an indication of total dust concentration at a particular location. This targeted assessment combined with the laser diffraction monitoring enabled a full analysis of the dust produced as a result of the site operations.

Analysis of the results of the sampling allowed Oceans ESU to make recommendations to the recycling company to reduce dust generation from the site and to explore further options to enable them to ensure their impact on others is reduced to a minimum.

