



Noise Assessment for an Extension to a Manufacturing Facility in Wigan

Background

Miller Goodall Ltd (MGL) was appointed to undertake a noise assessment at a large food manufacturing facility in Leigh. This assessment was requested by the Local Authority to support a planning application for a new extraction fan and odour control plant.

The site already featured a large industrial unit, housing the main manufacturing facility and storage areas. The area containing the proposed odour control and extract plant was to be located close to the west facing facade of the main building, and comprised a large fan located within an enclosure, with associated ductwork and an extraction stack. The surrounding plant area also contained a number of other plant items including pumpsets, a filtration system and 2 twin fanned cooling towers. The majority of plant in the area ran constantly, 24 hours a day, 7 days a week. Residential property is located to the east of the site, and the extension to the development had the potential to create unacceptable levels of noise for local residents.

Action Taken

Discussions were held with Wigan Council regarding the scope and extent of the assessment. It was agreed that an assessment in accordance with the guidance provided in BS 4142: 1997 was the most appropriate method for assessing noise from the new items of plant.

Background noise level measurements were undertaken at the location of the nearest dwellings during daytime, evening and night-time periods. Measurements were made with contributions from plant operating and also with plant noise excluded from the dataset. In addition, some short duration measurements were made in the far-field with specific items of plant excluded.



L_{Aeq} and L_{A90} noise levels were determined at the nearest dwellings using a point source propagation method, applying corrections to account for geometric divergence, directivity of the source and ground absorption from the intervening grassland. Due to the relatively short distance between source and receiver (<250 m), air absorption was not considered to be significant and was therefore excluded from the calculations. The noise sources were broadband in nature and did not contain discreet tones, and the intervening ground was generally porous.

Where it was considered that far-field measurements of noise were reliable, these were corrected to the distance of the nearest dwellings and also used for comparison.

This data was subsequently used to assess the potential impact on nearby noise sensitive receivers in accordance with the methodology in BS 4142: 1997.

Summary of Findings

The assessment concluded that specific noise from the odour control plant was unlikely to lead to complaints and that no mitigation was necessary in relation to the new plant. The dominant noise sources at the facility were found to be two cooling towers which operated 24 hours a day, and recommendations were formulated to mitigate noise levels from this source, including the provision of a 3.5 m high barrier close to the cooling towers.

For more information about us, visit our website at www.millergoodall.co.uk. If you would like to discuss how we can help your project, please contact Miller Goodall on 01204 596166 or email info@millergoodall.co.uk.