Odour from fish smokery

The Muir Group and Kingdom Housing commissioned The Airshed to conduct an odour impact assessment for 18 new dwellings on land adjacent to an industrial estate. The majority of the industrial units are occupied by small locally based fish processors.

The main activities on site include the reception, processing and storage of fresh fish. The level of house-keeping on the site is good and fugitive odour from the unloading and loading of vehicles or waste storage is unlikely to cause any significant loss of amenity off-site.

Three of the occupants of the industrial estate conduct hot and/or cold smoking processes and these emissions are typically detectable off-site. Although odour from these processes is relatively pleasant, prolonged exposure to any odour, however agreeable, has the potential to cause annoyance at a sufficient level of exposure.

Odour measurements were conducted at the fish processing premises immediately adjacent to the proposed development site. Samples were taken from hot smoke and cold smoke units. Samples were analysed in accordance with BS EN 13725 : 2003.

A conventional computer based dispersion model (ADMS 4.1) was used to consider the likely odour impact from these processes based on the odour sample data. Five point sources were modelled, above simple cuboid buildings 6m high. The results from the dispersion model indicated that the impact from the existing emissions flues would be likely to be most significant on land at the north-west corner of the proposed development site.

The model was run for a range of flue heights. This indicated that the area of the development site affected by odour progressively reduced as flue height increased. The assessment concluded that the existing flues were poorly situated to enable dispersion and the most practical option would be to increase the flue heights to 3m above roof ridge level. Increasing the height of the flues would ensure that odour from the fish smoking processes is unlikely to cause loss of amenity for residents of the new houses.

The Airshed