

Odour from Pig Farm

Kiernan Farms made application to the Planning Service of Northern Ireland for planning permission to extend an existing intensive pig unit at Killyleagh, County Down, regulated by the Northern Ireland Environment Agency (NIEA) under the Pollution Prevention and Control Regime.

The nearest sensitive receptor was ~50m to the south-east of the nearest point of release and there were several other properties within 400m of the proposed extension to the installation. The local topography had a slight beneficial effect in aiding dispersion.

The existing process comprised five buildings consisting of dry sow and service area, with farrowing, weaner accommodation and housing designed for rearing pigs for meat production. The total stocking capacity of the existing installation was 730 sows and 3,300 production pigs >30kg. The process had operated without any recorded odour related complaint.

Kiernan Farms sought permission to increase capacity on the site to accommodate a total of 1,100 sows, 5 boars, 3,500 weaners and 8,000 production pigs. The Planning Service were unwilling to determine the application unless the extended installation was firstly permitted by the NIEA. The Agency in turn advised the applicant that as part of any application for a variation to expand the installation, they must demonstrate that the predicted odour impacts would be likely to be acceptable at any local third party dwelling.

The dispersion model ADMS 4.2 was used to predict odour at the nearest dwellings using 5 years of hourly sequential meteorological data from a nearby met. station and typical odour emission factors for Irish pig operations. Impacts were assessed against the NIEA odour benchmark of 3 OU_E/m^3 1 hour 98%ile. The main source of odour was from the mechanical ventilation system serving each pig house.

Odour from the existing pig farm was predicted to be around 50 OU_E/m^3 1 hour 98%ile at the nearest sensitive receptor. The addition of new finishing units at the farm would have increased this to ~ 80 OU_E/m^3 . However, with abatement proposed by The Airshed, (the erection of 12m high stacks to improve dispersion from the existing and proposed finishing sheds) the worst case odour impact at the nearest receptor would reduce by a factor of 2 and ensure that elsewhere the new units could operate with no significant increase in odour.

