

Holyrood Distillery

Newmake Ltd applied for planning permission for a new small-scale distillery at St Leonard's Lane, Edinburgh, (to be housed in the refurbished Engine Shed building) with the capacity to manufacture up to 220,000 litres of pure alcohol (LPA) per annum. The local authority was concerned that odour from the installation could affect the amenity of local residents as the proposed site was overlooked by several tenement properties.

The aim of this facility was to provide a small demonstration process within the city, as a major new tourist attraction. All operations would be conducted inside the process buildings to prevent or minimise the release of odours from the process. The only residual emission source with potential for the release of odour would therefore be from the ventilation duct above the mash tun when vapours are released to atmosphere. These odours are less offensive where an odour benchmark of $6 \text{ OU}_E/\text{m}^3$ 1 hour 98% is typically used to protect residential amenity.

Additional measures to reduce odour included storing raw materials at a warehouse elsewhere to be brought to site on a just-in-time basis to minimise on-site storage. All milling would also be conducted off-site and delivered for use on a daily basis. All by-products arising e.g. draff and spent liquors would be stored in sealed containers and exported off-site by road vehicle with no bonded warehousing on-site.

A dispersion model (ADMS 5.1) was used to predict odour around the proposed installation using 5 years of historical meteorological data from the Met. Office site at Edinburgh Gogarbank. A model sensitivity test was conducted to consider the effects on dispersion of meteorological variability, surface roughness, building effects and receptor height. The worst case dispersion conditions were used to predict odour impacts. Odour was predicted for two Scenarios: Scenario 1 – where the emissions from the mash tun are released at a rate of $5,231 \text{ OU}_E/\text{s}$ from a flue terminating 0.5m above roof ridge level and where operations are confined to daytime hours; and Scenario 2 – where the emissions (as per Scenario 1) are passed through an odour control unit (OCU) with 85% abatement efficiency.

For Scenario 1 (unabated emissions), odour was predicted to be up to three times the odour benchmark, where the highest predicted ground level concentrations were in the rear gardens of the nearest dwellings. In the case of Scenario 2, where exhaust vapours from the mash tun are passed through an OCU, odour impacts were predicted to be well below (<50%) the odour benchmark at all sensitive receptors.

The worst case impact assessment for Scenario 2 indicated that odour was predicted to be less than $3 \text{ OU}_E/\text{m}^3$ 1 hour 98%ile at all sensitive receptors subject to the satisfactory implementation of the mitigation measures. The findings of the odour impact assessment were accepted by the City of Edinburgh Council.

